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CHEMICAL AND BIOLOGICAL WEAPONS THREAT: THE URGENT NEED FOR REMEDIES

HEARINGS

OF THE

COMMITTEE ON FOREIGN RELATIONS UNITED STATES SENATE

ONE HUNDRED FIRST CONGRESS

FIRST SESSION

JANUARY 24, MARCH 1, and MAY 9, 1989

Printed for the use of the Committee on Foreign Relations

U.S. GOVERNMENT PRINTING OFFICE

98-420 ⇆ WASHINGTON : 1989

For sale by the Superintendent of Documents, Congressional Sales Office
U.S. Government Printing Office, Washington, DC 20402

S381-a 1

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CHEMICAL AND BIOLOGICAL WEAPONS THREAT: THE URGENT NEED FOR REMEDIES

TUESDAY, JANUARY 24, 1989

U.S. SENATE,
COMMITTEE ON FOREIGN RELATIONS,
Washington, DC.

The committee met at 10:31 a.m., in room SD-419, Dirksen Senate Office Building, the Hon. Claiborne Pell (chairman of the committee) presiding.

Present: Senators Pell, Kerry, Helms, Lugar, Pressler, McConnell, and Humphrey.

The CHAIRMAN. The committee will come to order. I am very glad, indeed, to join in welcoming General Burns today. As we know, General Burns succeeded former Secretary Schultz as head of the U.S. delegation to the Paris Conference on the Prohibition of Chemical Weapons earlier this month.

Chemical and biological weapons, the threat they pose, and the risks which are associated with many of them continue to be matters of concern to people throughout the world. Chemical and biological weapons may not pose the threat of world annihilation associated with nuclear weapons; but in a smaller arena, such as a theater of war, their use could be just as horrific and deadly.

Unlike nuclear weapons, which are seen as weapons only of a final cataclysm, the evidence is that more and more nations see chemical weapons as usable to even the odds and prevent defeat. We must realize that chemical weapons were used in the Iran-Iraq war and by Iran against its Kurdish minority. Iraq has yet to pay a significant price for doing this.

This is not to say that there is not strong sentiment that something must be done. Last year, following Iraq's use of poison chemicals in the Iran-Iraq war and against its Kurdish minority, the ranking minority member, Senator Helms, and I sponsored a bill to impose sanctions in Iraq, which was approved overwhelmingly by the Senate. Unfortunately, it was too late in the session to secure passage by the Congress in the face of administration opposition.

With a new Congress, and a fresh administration and the words of the new President concerning chemical warfare, I would wish to see the United States in the forefront of efforts to deal with the scourge of chemical weapons. We are now formulating new legislation that would apply and mandate sanctions by the United States against nations that use chemical weapons and recommend sanctions to be applied by other nations against any nations using chemical or biological weapons in violation of international law.

I would ask that my complete statement be inserted in the record, and I will now turn to the ranking minority member, Senator Helms.

[The prepared statement of Senator Pell follows:]

PREPARED STATEMENT OF SENATOR PELL

I would like to welcome General Burns before the committee today. The General succeeded former Secretary Shultz as head of the U.S. delegation to the Paris Conference on the Prohibition of Chemical Weapons earlier this month. He will discuss the results of that conference with the committee and assess prospects for success in the Geneva negotiations on a chemical weapons ban.

Chemical and biological weapons, the threat they pose and the risks which are associated with many of them continue to be matters of concern to people throughout the world. Chemical and biological weapons do not pose the threat of world annihilation associated with nuclear weapons, but in a smaller arena, such a theater of war, their use would be just as horrific and deadly. Unlike nuclear weapons, which are generally seen as weapons only of a final cataclysm, the evidence is in that more and more nations see chemical weapons us usable to even the odds or prevent defeat. We must realize that chemical weapons were used in the Iran-Iraq war and by Iraq against its Kurdish minority. Iraq has yet to pay any significant price for that terrible use.

This is not to say that there is not strong sentiment that something must be done. Last year, following Iraq's use of poison chemicals in the Iran-Iraq war and against its Kurdish minority, I sponsored a bill to impose sanctions on Iraq which was approved overwhelmingly by the Senate. Unfortunately, it was too late in the session to secure passage by Congress in the face of administration opposition.

With a new Congress and a fresh administration, I would wish to see the United States in the forefront of efforts to deal with the scourge of chemical weapons. We are now formulating new legislation that will mandate sanctions to be applied by other nations against any nation using chemical or biological weapons in violation of international law.

The active participation of 149 nations in the Paris conference demonstrates the level of international attention. It is imperative that we build upon this important new start by pressing ahead to success in the negotiation of a complete ban on chemical weapons, to complement the earlier achievement of the 1972 Biological Weapons Convention.

We must not underestimate the importance of these tasks. We have opportunities before us now just waiting to be seized.

Would you begin, General Burns?

OPENING STATEMENT OF SENATOR HELMS

Senator HELMS. Thank you, Mr. Chairman.

General Burns, we are delighted to hear from you. You are a distinguished American and as the Director of the Arms Control and Disarmament Agency, you hold an enormously important post, as you know.

I assume you are going to discuss the proliferation and possible control of chemical and biological weapons. The problems, General, as you know, is exceedingly grim. With the critical assistance of Western industrial firms, the four most radical regimes in the world are acquiring weapons of mass destruction.

We are at this point because of a major policy failure by one of or closest allies. New York Times columnist William Safire put it this way recently, "Certainly for months and probably for years the Kohl-Genscher-Stoltenberg government had evidence that German merchants of death were illegally supplying the technical know-how and materials for production of poison gas in Iraq, Syria, and Libya, as well as missile technology that could help Third World dictators hold the world's cities hostage to the poor man's atomic bomb." That was on January 16.

Now, what did the Bonn government know and when did they know it, as the saying around this place goes?

Well, all they had to do was read the front page of the New York Times on March 30, 1984, almost 5 years ago, and they would have known that the German firm of Karl Kobb was building a poison gas plant in Iraq. And if it read the front page of the New York Times on December 24, 1987, just 13 months ago, they would have known that Colonel Qadhafi was building a poison gas plant. And if they had read this week's issue of the German magazine Der Spiegel, they would have known the details of a German firm's efforts to provide Colonel Qadhafi with air-to-air refueling for his Russian Migs. Without refueling, Qadhafi cannot cross the Suez Canal; with refueling, he can reach Israel.

The point is that they are bound to have read these things, so they cannot plead ignorance. If the German Foreign Minister did not know, he needs a white cane. It is because he did not want to know. His so-called Free Democratic Party has staffed both the Foreign Ministry and the Economics Ministry for well over a decade. He had but to ask in order to find out where German exports were going.

So, Mr. Chairman, the vital question before this committee is, What we can do to prevent the catastrophe of mass murder by poison gas?

In March 1984, now President Bush proposed a far-reaching convention on chemical weapons. Discussion of that convention continues in Geneva, but there are two immediate problems. First, the convention calls for complex verification procedures, and our experience with the verification of agreements with the Soviet Union is not positive. Second, the poison gas deals are being made now. We cannot delay. Time is not on our side.

Now, tomorrow, the distinguished chairman intends to introduce legislation placing sanctions on countries which violate the 1925 Geneva Protocol. And, as he has indicated, I have the honor of joining him in cosponsoring this legislation.

And I intend also to offer legislation to place sanctions on suppliers of chemical warfare equipment and technology to Third World countries. The two concepts do not conflict; they are complementary. And I have every reason to believe that in the end the Congress and the administration will see the wisdom of both approaches.

I thank you, Mr. Chairman.

The CHAIRMAN. Thank you very much, Senator Helms.

General Burns, we would be glad to hear from you.

STATEMENT OF WILLIAM F. BURNS, MAJOR GENERAL, U.S. ARMY (RET.), DIRECTOR, U.S. ARMS CONTROL AND DISARMAMENT AGENCY

General BURNS. Thank you, Mr. Chairman, I am delighted to be here. I am particularly gratified to see that the issues of arms control are going to play an important and early role in this administration and the deliberations of this committee.

I do have a formal statement I would like to submit for the record, Mr. Chairman, and then just make some remarks from that.

The CHAIRMAN. Thank you, very much.

It will be inserted in the record as if read, without objection.

General BURNS. Thank you, Mr. Chairman.

As you know, in September last, President Reagan suggested before the United Nations that an international conference be called to direct the world's attention against the use of chemical weapons, to do some of those things that Senator Helms just so eloquently stated.

We sought a forceful stand against the use of chemical weapons, endorsement of the Geneva negotiations on the ultimate banning of chemical weapons, support for the Secretary General of the United Nations' investigative role, support for export controls, and support for what was termed "appropriate actions"—meaning sanctions under Article VII of the U.N. Charter—and also a forceful statement on the necessity for humanitarian aid, for victims of chemical weapons' use.

The conference, Mr. Chairman, was a success. It was a success from a number of points of view. The very fact that 149 nations, 151 participants, in fact, assembled and discussed for 5 days chemical use, drew hundreds of reporters from various media, testified to the wisdom of former President Reagan's initiative in September—109 plenary statements were made. Almost every one of these plenary statements—with the exception of the statements from the handful of victimizers—were in support of nonuse of chemical weapons, a reaffirmation of a commitment to support the 1925 Geneva Protocol.

Fourteen states announced their intentions to adhere to this protocol during the session. It was also emphasized that there was a need for a comprehensive, truly and effectively verifiable and truly global ban against chemical weapons and a widespread desire to make national contributions to this end. The importance of investigations of chemical use was highlighted, and many nations called specifically for stronger export controls.

The final declaration was an interesting document. It was a general document, to be sure, but it encapsulated these general ideas expressed by participating nations. We would have preferred stronger language, but a consensus of 149 nations is difficult to reach. We believe that the consensus document serves an extremely useful purpose—an explicit reference in the document to stronger export controls, greater emphasis on consideration of U.N.-sponsored sanctions. More than anything, however, the consensus document, in very explicit language, condemned continued use of chemical weapons for whatever reason by anyone in any region of the world.

Problems arose during the conference. Thanks to the leadership of the former Secretary of State, and an outstanding U.S. delegation, we were able to work through the problems, if you will, on the final document.

What the conference achieved was that issues of concern to the United States had now become internationalized. Almost every nation in the world accepts the position the United States has been advocating and arguing for years—the nonuse of chemical weapons, the condemnation—in at least a general sense—of nations that use chemical weapons, and a determination to move now into the

future with specific actions to see that the scourge of the use of chemical weapons and the existence of chemical weapons is eliminated from the face of the Earth.

Mr. Chairman, thank you, and I will be happy to answer your questions.

[The prepared statement of Major General Burns appears in the appendix.]

The CHAIRMAN. Thank you, very much, indeed, General Burns.

We will have the 10-minute rule, as is our custom in asking questions.

I think I am correct in saying that last October, President Bush said, "If I am elected President, if I am remembered for anything, it would be this: A complete and total ban on nuclear weapons."

Now, do you see any new initiatives that we, the United States, will be taking and could you outline them to us?

General BURNS. As you know, Mr. Chairman, the next session will begin on February 7 in Geneva. I doubt very much that the United States in that short period of time, through the new administration, will table new initiatives at that time.

The two issues that are outstanding in generic terms, the globality of the adherence to a projected convention and effective verification, were both highlighted at the conference.

Attendance at the conference, I think, demonstrates the truly global nature of concern in Geneva, and I think we have made strong advances in that area. It is going to be difficult for a nation, in the future, more difficult than in the past, to attempt to evade international responsibility in this area.

The crucial issue, then, is verification. I believe that verification of any chemical ban is going to be extremely difficult. Probably more difficult than verification of a strategic nuclear arms treaty. That does not say it cannot be done: 14 nations are now conducting unilateral, experimental inspections to determine what it is one looks for in a chemical facility. These will be internationalized, or multilateralized as the next step to determine that there is international consensus on these points.

The United States will be participating in this and conduct our inspection of a typical chemical plant in the very near future, in the next couple of months.

Out of this I hope will come some very specific ideas in terms of verification.

The CHAIRMAN. I wonder if you could give us your best estimate of the number of nations with the capability to produce lethal chemicals and weapons?

General BURNS. Mr. Chairman, that is the difficulty. Almost any country could produce some amount of lethal chemical agent. A significant amount, however, to be used in warmaking would require a certain amount of chemical industry infrastructure. We believe that there are about 20 nations, including the United States and the Soviet Union, who now have that capacity and which have embarked on programs to produce chemical weapons.

The CHAIRMAN. But how many of those 20 actually presently have chemical weapons stockpiles?

General BURNS. Most of these countries have some stockpiles at present. We believe a small portion of these countries actually have significant chemical weapons stockpiles.

The CHAIRMAN. Could you name those countries, or would you rather not?

General BURNS. On the public record, Mr. Chairman, we have already stated our belief that Iraq and Iran have chemical capabilities, they have used them. Libya has a chemical capability. We believe, at least as the public record indicates, that Libya has used them. Other nations are not quite as explicit in their possession.

The CHAIRMAN. Right, but do you not see a certain contradiction between the position of the United States in urging countries not to go into this field; at the same time, going ahead and continuing to produce an increased stockpile of binary weapons?

General BURNS. No. With all respect, Mr. Chairman, I do not see a conflict. First of all, the United States has maintained a deterrent stockpile since World War I. During World War II, the United States increased its stockpile.

It is very difficult to prove when deterrent works, but in this particular case, the United States has not been attacked by chemical weapons since it has had its stockpile. So, that one must at least suggest that this is due, to some extent, to having a stockpile.

The problem I see right now in eliminating our stockpile unilaterally is the signal that would give to the rest of the world. Now, you could argue that it is a very positive signal—the United States has taken the lead in eliminating stockpiles unilaterally. You could also take it as a sign of weakness, a sign that the United States, for reasons not germane to arms control, not germane to a ban on chemical weapons, decided not to produce binaries.

And, as you know, given the aging stocks of unitaries, plus the legislated plan for elimination of all unitaries by 1997, it seems prudent that we maintain a small binary stockpile as a deterrent until we can get a ban.

The CHAIRMAN. Could we not at least put the production of new binary weapons on hold? We have a little stockpile now, not so little, either. Would it not be a good policy to put it on hold as we engage in this negotiating position we are in?

General BURNS. I am not sure that that would be a wise move. First of all, what we have procured so far are the very shortest-range systems—the cannon-delivered chemical projectiles.

I believe that a stockpile, to be militarily sufficient must be a mix of delivery systems. I think that is what the program in the defense budget calls for right now, and I support that.

The CHAIRMAN. As you know, we had this bill applying sanctions to Iraq that was passed in the last session of the Senate. The administration opposes it.

What is the present position of the administration with regard to that bill?

General BURNS. Mr. Chairman, I cannot speak on that particular point for the administration at the present time. I can simply recall the testimony of the Secretary-Designate of State, Mr. Baker. I recall the statements that the President made during his recent campaign. I personally believe that it is time for us to reexamine all modes and all methodologies for dealing with the problem.

The CHAIRMAN. There, I think we would all agree with each other. I think there was a story last week on ABC, that Iraq is developing biological weapons, including typhoid, cholera, and anthrax germs, or methods of disease.

What can be done to discourage this process?

General BURNS. Biological agents, of course, are allied with chemical agents, but present peculiarly different kinds of problems.

First of all, we have a convention—the 1972 convention—which bans not only the use but the possession of such agents. The United States abandoned its stocks of biological agents even before the treaty was signed, in 1969.

There are reports of nations maintaining stocks of biological agents contrary to the treaty. In fact, in the recent compliance report, which was submitted by the President, we cite the Soviet Union as being one of those violators.

The problem of maintaining a capability is tied in, of course, with the ability of a nation to maintain a drug industry. So, it is a very complicated problem. The attention which has been directed to this larger problem, by the CW Conference in Paris, I think is going to shed considerable light on the possession of biological weapons. Many of these agents cannot stand the light. They deteriorate in the light, and maybe this is the kind of light we need to shed on them.

The CHAIRMAN. Thank you, very much. I have no further questions at this time.

Senator Helms.

Senator HELMS. Mr. Chairman, thank you very much. I am going to ask that a couple of visuals be put up.

[Slide.]

Senator HELMS. The first one, as you will note General, has two rings. The first ring shows Libyan Migs without air-to-air refueling. The second shows the range they can reach with refueling.

Now, last night on CBS, I think it was, there was an extensive report on precisely this issue. The German firm, INTEC, and its subcontractors were named. Materials on INTEC letterhead were shown telling engineers to open secret Swiss bank accounts. The Israeli Foreign Minister, Mr. Arens, has called this development not only a threat to Israel, but "a threat to the entire civilized world."

And that is no understatement.

My question, General, if an American television network, even Dan Rather, and a German news magazine can find out this information after it was first publicly mentioned—it was mentioned the first time on New Year's Day in the New York Times—what steps are we taking to persuade the German Government to get moving on this problem?

General BURNS. Senator, I think we have taken a number of steps and we are in the process of taking additional steps. At 9:30 this morning, I met with the German Charge on this very matter. We had intense discussions in Paris with German representatives. The Secretary of State met with the German Foreign Minister.

I believe that the German Government, from the information provided to me this morning and in recent days, is addressing the problem seriously.

Senator HELMS. Do they indicate they are appalled by it?

General BURNS. I think "appalled" would be a mild word.

I believe the concern of the German Government is real. I do not think it is appropriate for me to state why there are problems in the German Government, or why the German Government took this or that course of action. I think the important thing to recognize is that they are now seized with the problem.

On January 18, before the Bundestag, the Chancery Minister made a very important statement, where he laid out for the first time before the Bundestag, the length and breadth of the problem. Immediately thereafter, the Bundestag responded with two resolutions. One called on the federal government—the Kohl government—to exhaust all existing control possibilities in order to assure that commercial firms from the Federal Republic of Germany cannot give further assistance to development and production of chemical weapons.

A second called on the federal government to submit without delay, not later than February 15, 1989, a written report which spells out which departments and members of the federal government were informed at which time about a possible participation of Germans in a poison gas production in Libya, what was initiated thereupon, and which political and legal consequences the federal government intends to draw from the intelligence available thus far.

I believe from any parliament this is a very strong statement. I believe that the government, in responding to this statement, is going to get to the heart and the bottom of the particular problem that you suggest exists.

Senator HELMS. And then, what will they do?

General BURNS. Well, first of all, the German Government in the speech made on the February 18, suggests that they will enact much stronger export controls, which is one of the major initiatives we have been pushing.

Second, we have to look at international cooperative efforts. As you know, there is the so-called Australian Group, which is a voluntary association of 20 developed nations that have identified a large number of chemical agents which are precursors to chemical weapons.

The United States, I think, has some 42, whose exports we control because of the danger of the possible use of these. I think there will be closer ties in the intelligence field to make sure that the intelligence available is circulated with proper safeguards and to ensure that we can give a heads up as early as possible to friendly governments where some of their own internal laws may be violated by export of chemicals or other kinds of equipment which could be used in the production of chemical weapons.

So, I believe that the German Government is on the right track and I applaud the activity they are taking now, and I hope it continues into the future.

Senator HELMS. I do not want to load you down with charts, but I have another one or two. If you will change, please, sir?

[Slide.]

Senator HELMS. Now, this chart is a—well, there are two of them. We could not get them all on one chart.

This is as updated as we could get it, as of last night, listing those foreign firms which have been reported openly, uncontested, not denied. The world press had reported all of these firms are dealing in one way or another as suppliers to poison gas plants in the Middle East.

Now, by noontime we may need a third chart. The names are rolling out so fast that our chartmaker is having a little bit of trouble keeping up.

Der Spiegel, in this issue of January 23, reported that the West German electronics giant, Siemens, sent 10 tons of telecommunications equipment to the Libyan poison gas plant. And, according to Der Spiegel, the shipment was falsely labeled. It said on the label, intended for Hong Kong, for a Hong Kong telephone system; but in fact, it was diverted to Libya.

Now, I have, today, written to the Attorney General of the United States, Mr. Thornberg, asking for a complete investigation of these charges and these reports, because Siemens is a very large multinational corporation that has extensive operations right here, in the United States of America.

Now, do you think that Congress should again consider sanctions in this instance?

General BURNS. Senator, let me make a couple of observations in answer to your question.

It is significant to note that none of the firms listed here are U.S. firms. So, our export control acts seem to be working. That does not mean that additional sanctions need not be applied. I am just suggesting——

Senator HELMS. They deal here in the United States. We ought to cut their water off.

General BURNS. I applaud that, and I agree with it. We have to cut their water off.

The other thing that we have to keep in mind is that reflecting or recalling my previous assignment in the State Department, where one of my duties was to issue demarches concerning our appreciation of this kind of business going on.

I would say that if we had not been doing that over the years, there would not be enough charts in this room to list all the companies.

While this is deplorable, we have had some success in cutting back on the trade. We have to make greater efforts, and I would be very interested to see the language of legislation proposed to see if that is something which would achieve that purpose.

Senator HELMS. We will certainly share it with you.

The Washington Times, back on January 19, last week, reported that 1 year ago the National Security Council prepared a document claiming that the Soviet Union has two known biological warfare facilities and is suspected of having seven more. Did you see that account?

General BURNS. I am aware of the information.

Senator HELMS. According to the Washington Times, the NSC document raises into question Soviet compliance with the 1972 Biological Warfare Convention, which has been alluded to here earlier.

Now, this convention is very similar to the chemical warfare treaty which you are now trying to negotiate in Geneva. Both have

extensive provisions relating to onsite inspections and so forth, as I understand it.

Now, first of all, can you confirm, at least the thrust of the article in the Washington Times?

General BURNS. Recalling the compliance report just submitted, where those even in the unclassified version, we make general reference to those facts; yes. We believe the Soviet Union does have a stock of biological weapons and obviously, then, must have some capability to produce them.

Senator HELMS. Would you be willing to provide, in whatever classification you want, to this committee, a copy of the NSC document?

General BURNS. That is beyond my capability to do, but let me check it out, and if we can have it released, we will certainly do that. Otherwise, let me try to have a summary of those parts we can provide for you.

Senator HELMS. I know that the chairman would assure that the top classification would be respected.

Well, General, are the Soviets, in fact, cheating on a massive scale on the 1972 convention?

General BURNS. I am not sure exactly what "massive scale" means.

Senator HELMS. Well, you use your own word.

General BURNS. We believe the Soviets are maintaining stocks contrary to the 1972 convention. The problem with the 1972 convention, of course, is that the drafters of that convention—and this is a personal thing and we were not so enlightened as we are today—did not recognize the necessity for stringent verification.

And you suggested that the biological convention is verifiable—I would say that it is marginally verifiable.

Senator HELMS. Well, if they are cheating on the 1972 Biological Warfare Convention, how can we have any confidence that they will keep their word on the proposed chemical warfare treaty that is now being negotiated?

General BURNS. Because I do not believe that we should rely on the word of anyone. It is the deeds that we have to look at.

Senator HELMS. I see my time is up. Thank you, Mr. Chairman, I am concluded.

The CHAIRMAN. Thank you very much.

Senator Lugar.

Senator LUGAR. Thank you very much, Mr. Chairman.

The question, as you have stated it, General Burns, is effectively what can we do?

And you have suggested our Government has tried to move with treaties and diplomacy with other countries, 149 countries had a conference to raise world sensitivity on this issue.

And certainly there has been discussion in this body about sanctions on governments and on specific companies.

And perhaps these steps will be effective. They almost exhaust the number of things, however, that we are left with. And I just want to explore with you in this dialog about what can we anticipate?

Taking the treaty route to begin with, as you have stated, verification of a treaty is very difficult; that is, whether people are in

compliance or not. And you have stated we are now studying, as I understand, some pilot projects as to how you go about this more effectively.

Senator Helms has raised correctly the point of verification, specifically with the Soviet Union. Is it your judgment that even if treaties are not completely verifiable—only reasonably verifiable—they still are a step forward?

Is this something that the world ought to try to do in a comprehensive way with all countries as signatories?

General BURNS. Senator, I would not go so far as to say that a treaty, because of its ultimate intention or overall worth, should be accepted with a marginal capability to verify it. I think, if we are going to sign a treaty in arms control, it cannot be based on trust; it must be based on verification.

So, I would not advocate the signing of a chemical convention banning chemical weapons, unless we were sure that we had an effective means to ensure that the signatories would abide by the treaty.

Now, if nations stop using chemical weapons and stop stockpiling chemical weapons, then we achieve the same goals. But we are not placed in a situation of having to put the faith and honor of the United States against a treaty, suspecting that there will be violators.

Senator LUGAR. How would we know that they had stopped stockpiling?

General BURNS. It is easier—I should not say it is easier—but there are different modalities for the intelligence community to determine using reasonable criteria, whether a nation has a stockpile or whether a nation is using chemical weapons or biological weapons, than a treaty where there is a certain absoluteness in the information required.

It seems to me that it is important, first of all, to stop the use of chemical weapons. And I think that right now, because of the conference, it is going to be very difficult for a country to use chemical weapons. This has nothing to say that they will not continue to stockpile.

How do we deal with the stockpile situation?

Well, as Senator Helms correctly pointed out, there are a number of nations that have in the past permitted, looked the other way, whatever words you want to use, while their industries exported chemical weapons or the precursors to chemical weapons.

I think that we are going to see a slowdown, if not a cessation, of that. So, it is going to be more difficult for countries to select chemical weapons as their own personal weapon of mass destruction.

Senator LUGAR. Why would they slow down? Just because of world opinion, or because specific sanctions harm their industries?

General BURNS. I think you will be seeing not only the Federal Republic but other nations look to their internal legislation to see how best they can curb this kind of export.

Senator LUGAR. Why would Iran or Iraq, say 2 years ago—now the situation is very different—have cared one way or another about any of these conferences or any of the sanctions that were involved?

General BURNS. They would only care if their stocks of chemical precursors were cut into. And I believe that we had some success in dealing with this particular problem.

Senator LUGAR. So, you go back to the source, at least for a less-developed nation and work on Germany, France, England, the United States—countries which have the so-called precursors. Your strategy, in essence, is to say, even if Iran and Iraq are totally desperate and totally irrational and prepared to throw everything they can at each other, they can be cut off in some ways from doing that, if other sophisticated, productive nations are inhibited?

General BURNS. I think that is a correct statement, Senator. You approach complete cutoff as a goal. You probably do not reach it, but the amount of tonnages we are talking about are rather significant in terms of precursors.

It is not easy for a small nation to amass that amount, and so I think we can be successful in cutting off access to militarily significant amounts. That does not mean they cannot have a stockpile to use as a terrorist threat. We have to work on that through other means.

Senator LUGAR. What if, just hypothetically, the United States, Germany, Great Britain, France—to name four countries, perhaps others should be included—formed a pact and said, "We believe the business of chemical warfare is so serious, we are prepared as nations to take diplomatic, economic and even military steps to mop up on any country, at any time, that uses these chemical weapons."

Why would that not be a more effective step right now, for example, than trying to get a weak treaty of 149 countries?

General BURNS. At the Paris conference, Senator, that is exactly what we did. The language of the declaration calls on nations to use the mechanism of the United Nations, the article VII sanctions mechanism to do just that.

We have had some success with the Secretary General's investigative mechanisms. He has been able to develop almost unanimous world consensus on the use, say, in Iraq. The next step now is what do we do?

What is interesting is that it seems that there is a coincidence of interest here between the United States and the Soviet Union. This is the first international meeting or conference that I have attended or been associated with, where the United States and the Soviet Union were not at opposite sides of the table. In fact, my Soviet opposite number and I appeared on television and there were no fireworks, which was unusual.

It seems to me that if the United States and the Soviet Union agree that chemical weapons should not be used, and we can use the Security Council and sanctions mechanism of the United Nations, I think we can achieve exactly what you are talking about.

We still need to work on a convention, but a convention might be easier to come by if nations realize that conduct of this nature is not going to be tolerated by the great mass of nations.

Senator LUGAR. Let me just go back to Secretary Baker's testimony of the other day—and he did not have a chance to explore this fully—when he suggested that one reason why our Government opposed the sanctions on Iraq which Congress voted last year, was that it might have been counterproductive.

I am not certain that I understand the history of that situation or the details as to why our Government took that position then, but are you suggesting, whatever their position was then, that Secretary Shultz, in Paris, and our Government there, and yourself, are taking a very different point of view now?

In other words, are you suggesting a total condemnation of Iraq, letting the chips fall where they may?

General BURNS. I am not sure that I would characterize it as a total change of heart, because I really do not know, Senator. The new administration has not really addressed these issues, but it seems to me that in the last 6 to 8 months there has been a certain evolution of thinking.

And I am quite satisfied to see that take place.

Senator LUGAR. So, the new administration, now, at the end of this evolution is taking a position that if Iraq is a violator, that this country and the rest of the world ought to pounce on Iraq? And that we are not equivocal about this at all.

General BURNS. I think, to put it a little differently, at the conference we and other nations exercised a great deal of restraint on pouncing on anyone, and I think it was very effective, because the users gave very defensive speeches. Iraq was singled out by its own speech, by its own admission, as a user; and Iraq made some fairly positive declarations in its speech as to what their conduct would be in the future.

So, yes, there will be an evolution. Let us hope that we do not have a user again. If we do, it is about time that we do something about it.

Senator LUGAR. Thank you very much.

The CHAIRMAN. Thank you very much.

Senator Pressler.

Senator PRESSLER. Could you be a bit more detailed in the vigorous steps that our Government could take with our European allies; what do we have besides the power of persuasion?

What sanctions or other forceful steps could we use? Let us say that they do not stop supplying the elements to Libya or some other countries. I have always been fascinated with some of our great European allies who sometimes are very critical of our foreign policy, at the same moment they are supplying arms to both sides of conflicts in the Middle East. They say that they sell only defensive weapons, but they turn out to be offensive.

They wear a great sanctimonious cloak at times. I think this whole chemical weapons thing, especially as it affects Libya, is an example. What steps can we really take regarding our European allies?

General BURNS. Senator, we have already begun to take a number of steps, not so much begun, but they are continuing steps that we use in dealing with our allies.

First of all, they are our allies, which means their own national and international policies are theirs to develop. We have had quite a bit of success, I believe, in the last 2 or 3 years, through talking and negotiations rather than overt pressure. As I mentioned earlier, the Australian Group of 19 other nations which have voluntarily associated themselves for the elimination of the exports of even

chemical precursors to parts of the world, not so much users, but any area of the world that does not now have chemical weapons.

We have developed, in the last 2 years, a sister regime—the Missile Technology Control Regime—which is doing essentially the same thing. Now, you ask, what kinds of sanctions could we impose against friends and allies?

This is really an economic question, because I think those are the kinds of sanctions that you are addressing. That is a little beyond the responsibility of my office. But it seems to me that the response we have received from governments in recent weeks, recent months, as we have laid evidence out, is an important indicator that the policies we have been following are working.

There is no way for us to dictate to another government, their own export control policies, except through international agreement, and those are the kinds of things we are working on.

Senator PRESSLER. Thank you.

The CHAIRMAN. I thank you very much.

Did I hear you correctly, General Burns, when you said that Libya had used chemical weapons?

General BURNS. Mr. Chairman, I indicated that there were press reports a couple of years ago—I believe it was involved with the Libyan operations against Chad—where the press reported that the Libyans had used chemical weapons.

The CHAIRMAN. Thank you.

I have no further questions, at this time. I would return to Senator Helms, if he wants a second round?

Senator HELMS. Mr. Chairman, thank you.

General, I am going to send down to you a letter and two attachments, the attachments being specific questions.

I am writing to you about Section 37 of the Arms Control and Disarmament Act requiring the Director of ACDA to report immediately to the Senate Committee on Foreign Relations, on any degradations in U.S. ability to monitor and verify any existing arms control treaty with which you are familiar.

Just for the purpose of the record, Mr. Chairman, I will read what the INF Treaty, itself, and its protocol on inspections state.

> The party whose facility is to be inspected shall ensure that the other party is able to establish a permanent, continuous monitoring system at that facility within 6 months after entry into force of the treaty.
>
> The inspecting party shall have the right to install at the portal, nondamaging image producing equipment for imaging the contents of launch canisters, or shipping containers. The inspection team shall have the right to weigh and measure the dimensions of any vehicle, including rail cars, exiting the site.

And what I am doing, General, is requesting that you respond to the committee, as to the list of attached questions on the INF Treaty verification degradation at the Votkinsk Portal.

And I thank you in advance for that.

General BURNS. Yes, I would be happy to respond to those things, Senator.

Senator HELMS. Now, let me resume the line of questioning in which I engaged in the first round.

Yesterday, on January 23, the London Times reported that British intelligence had discovered that the Soviets had more like

300,000 tons of chemical and biological warfare agents, rather than the 50,000 tons the Soviets have publicly announced.

And the Times, in the wonderful understatement by the British, called the Soviet response less than frank. Now, we would characterize it a little bit different down in North Carolina.

But in any event, Is it correct that the Soviets announced 50,000 tons?

General BURNS. That is correct, Senator. They have announced 50,000 tons, and that is a ludicrously low figure by our estimates.

Senator HELMS. How much do you estimate that they really have?

General BURNS. We question the accuracy of the Soviet figure, and have been energetically seeking clarification for the past year.

Senator HELMS. They have more than 300,000 tons?

General BURNS. I would rather not comment on alternative estimates without knowing what was included or excluded from a particular figure.

Senator HELMS. Does that give you a case of the nervous shakes about being able to negotiate a fair and verifiable treaty on chemical weapons?

General BURNS. No, as long as they are prepared to destroy them all, I am very happy to see them do that.

Senator HELMS. Well, they will negotiate it, but they will not abide by it. That is about the size of it.

Now, last week, General, when Jim Baker was here, I raised my concerns about reports of chemical warfare having been used in Angola against Jonas Savimbi's UNITA freedom fighters.

And my question to you, is the United States aware that allegations of chemical warfare was, in fact, used against UNITA in 1987 and 1988?

General BURNS. Senator, I am not sure that I can answer that question in this particular session. The United States is aware of a number of allegations of chemical use. Unfortunately many of them have been proven to be correct, but I cannot address that one specifically. Honestly, I do not know what the answer would be, but I certainly can supply an answer for the record, if you desire.

Senator HELMS. All right.

In that case, let me suggest that you investigate at least three specific instances that were reported by UNITA to a couple of members of my staff whom I sent over in December. Now, these have been confirmed by a United Nations investigative team headed by Professor Hendrickx. I am sure you are familiar with him—Lacosse, Cuito-Cuanavale, Cuemba-Munhango.

Now, UNITA reported that 300 men had been paralyzed and 120 killed as a result of poison gas being used in these three battles that I just enumerated. Have you read the U.N. report by Professor Hendrickx?

General BURNS. Yes, I am familiar with that report.

Senator HELMS. I ask Dr. Lucier to give you a copy of it and also members of the committee. Let me send down to you a couple of pictures that were brought back to me. Somebody take these to him.

Now, as you will see, these pictures appear to be captured gas masks. I do not think there is any doubt about what they are; do you?

General BURNS. No. I would say they were gas masks.

Senator HELMS. All right.

There is no other purpose for which these masks could be used other than in connection with chemical warfare; is there?

General BURNS. That is their normal use. That is right, Senator.

Senator HELMS. Is the United States aware of the increased presence in Angola of Soviet chemical warfare specialists who have been brought from Afghanistan during the past year or two or three?

General BURNS. Let me also answer that question for the record, if I may. I am not sure what the level of classification of the information I have is on it.

Senator HELMS. Well, I do not want you to violate any classification and that is perfectly reasonable.

General BURNS. Let me just say, Senator, that because of the insidiousness of chemical weapons, we often get reports of the use of chemical weapons and I think it is important that we follow up on every single report, because chemical weapons are insidious. They are relatively cheap; they kill indiscriminately. And I think it is important that we encourage activities such as Dr. Hendrick's, to bring to light, the light of world opinion, all these allegations.

Senator HELMS. Jonas Savimbi is a friend of a lot of us here. He had been in the Oval Office a number of times. He has been in my office a number of times. I am very much impressed with him as a man of character and courage.

And I say that in preface to the next question. Are you aware of any information that would tend to refute the claim of UNITA, Jonas Savimbi's outfit, that tons of bombs, specifically dispersal bombs used for chemical weapons, have been unloaded at Lubango in the past several months?

General BURNS. No, I have no evidence that would refute that.

Senator HELMS. Now, that is the location that UNITA says new shipments of dispersal bombs have been delivered in Soviet transport planes, 26 of them, during the past few months.

Are there any other, what you might call unusual activities taking place since the December 22 signing of the so-called peace accord that might indicate a sizable buildup of weaponry in anticipation of a new drive against Savimbi?

General BURNS. I have nothing I could add in this forum, but I would be happy to provide additional information for the record, if that is possible.

Senator HELMS. Fair enough.

Well, Mr. Chairman, that is about all I have and I thank you very much; and I thank you, General, for your candor. You have been forthright, and I appreciate that.

The CHAIRMAN. Thank you very much, indeed. Senator McConnell has not had his first round, so we will defer to him at this time.

Senator MCCONNELL. Thank you, Mr. Chairman.

I understand before I arrived, when asked which countries had chemical stockpiles your list included the United States, U.S.S.R.,

Iran, Iraq, and Libya. I am wondering if Syria and North Korea should have been added to the list?

General BURNS. Senator, I was not trying to provide an exhaustive list. I indicated that there were about 20 countries that either had the capability to develop stockpiles or had stockpiles and I just listed a few of those.

Yes, Syria, we believe, has a stockpile.

Senator MCCONNELL. Have any initiatives been taken with regard to Syria?

General BURNS. I am sorry?

Senator MCCONNELL. Have any initiatives been taken with regard to Syria?

General BURNS. Over the years, a number of initiatives have been taken. I cannot be more specific than that, however.

Senator MCCONNELL. While it is difficult to track the precursor chemicals from production to use in chemical weapons, the same cannot be said, I assume, about the containers for storage and the shells for lethal agents.

In fact, would it be fair to say that we are not talking about tin cans? In other words, these agents have to be stored in something fairly substantial.

Would it be an effective avenue of verification to track the shipment and sales of the special steels and the container technology?

General BURNS. It certainly would, Senator, and that is one of the rather fruitful avenues of investigation in the verification area we are following. The kinds of projectiles used, say artillery projectiles, are relatively common, but they are not particularly numerous in the stockpile. They are base ejection projectiles.

A country, particularly a small Third World country, that suddenly invests in large numbers of base ejection projectiles is suspect. Because the other use for them is firing smoke and that is not usually what they would want them for.

As far as the special metals required, the special tubing and valve construction required to deal with lethal agents, these are also fruitful areas to follow and that is what we are following.

Senator MCCONNELL. Is this potentially the most fruitful area to get a handle on the verification problem?

General BURNS. I do not think—I would not say it is the most fruitful, but I think it is an important area, together with other areas. We also have to watch for threshold levels of precursor stocks.

A country that has no particular commercial use for a chemical precursor, but suddenly orders many tons of it has provided a good indicator. But we are looking at—in fact, we have discussed in recent years with our own chemical industry this issue and asked them what are the kinds of things we should look for? The issue of valves came up in one meeting, as an example. What are the combinations of things that would make it likely that a country was trying to develop a clandestine stock or clandestine capability? What kind of modifications would be made in, say a fertilizer plant, to make it a standby chemical agent facility?

Those are the kinds of things we would look at. And so, we would want to look at these things in combination, rather than say this is

the most important, or this is the key element, without which they could not do something.

Senator MCCONNELL. Thank you, Mr. Chairman.

The CHAIRMAN. Senator Lugar.

Senator LUGAR. Mr. Chairman, I would just like to explore with General Burns, who is in charge of this situation at this point? I think we are agreed that President Bush has been forthright and strong on the issue, Secretary Baker likewise, and yourself.

But as you take a look at the comprehensive numbers of steps we have just explored here today, some economic as well as political and military measures, will you or your agency be in charge, or is this something that the President will handle through the National Security Council? Or, who will now coordinate precisely how a very concerted effort by the administration will occur?

General BURNS. Senator, it is difficult, if not impossible for me to answer that question. I think that is the kind of question which will evolve—and I hope very quickly—out of the reorganization in the National Security Council staff under General Scowcroft's direction.

I understand that these issues are being actively pursued now, and I hope before too many days go by, we will have an apparatus established for dealing with these problems. But I think the point you make is extremely important—we do need, if not a czar, at least a crown prince to deal with the problem. But there are other problems involved, too—for instance missile proliferation.

I think it is time, and the change of administration gives us the opportunity to take the time, to look at how we have organized in the past and how we should organize in the future.

I hope that the Director of the Arms Control and Disarmament Agency plays a key and leading role in this. I also think it is important that the legislative branch play a very important role. I was delighted and gratified to see that on my delegation, after I became chief, when the Secretary left, we still had representation from the legislative branch. And even members of the Congress who happened to be in Paris stopped by—and this is very rewarding and very gratifying to an individual who, to a degree is embattled with 148 other nations with differing views, to have sitting next to him and sitting behind him, Members of the Congress—who while they may differ on detail, certainly on the fundamental concern do not differ at all.

And I think this is very important and was personally gratifying to me to have Senator Nickles, Representative Cheney, Representative Lantos, and so forth, present in Paris at the time.

Senator LUGAR. I am certain each member of this committee appreciates your specific recognition of that role, as well as those individuals who played a part in that conference and bring back to both bodies their recognition of what occurred.

The purpose of my question is, as you surmised, was less to pin down precisely what you are going to do, or even what the President is going to do, because he has been in office just a few days. But I meant to highlight the fact that the leadership element of this issue is crucial.

For example, you have already heard today, in testimony by our chairman and the ranking member, that they are going to offer

legislation. And that legislation goes to the heart of sanctions, of countries, and of specific entities in one country, or maybe more by the time we are finished with this.

Without a concerted point of view by the administration now on something that is obviously of high profile to our Government, and has been elevated by President Bush to that point, we will have a proliferation of leadership attempts, all of them well meaning.

But before long, the signals from this country are likely to become diffuse. And my own suggestion would be that the President, the Secretary, General Scowcroft, or you work to coordinate this in the next few days and offer a policy or a program that the Congress might endorse, help out and amend. That would be more constructive than being confronted as the administration was last year, by legislation and then being in a very difficult position of explaining why sanctions against Iraq were untimely or indelicate or counterproductive, or whatever the words were.

As you say, we have evolved. Now, apparently, we are on much the same track. I would hope that we would seize that initiative.

General BURNS. I take your point, Senator.

Senator LUGAR. Thank you, very much.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, very much.

Senator Kerry.

Senator KERRY. Thank you, very much, Mr. Chairman.

General, welcome and I am glad to have an opportunity to talk with you about these matters.

The goal in our strategic arms reductions has been "adequate and effective verification." Is that the standard that is now going to be applied, or can that same standard be applied to a chemical weapons ban?

General BURNS. Yes. I believe so, Senator.

Senator KERRY. Can you give that greater definition and tell us what you think?

Well, let me phrase the question this way first, perhaps. In your view, what is the essential ingredient of moving beyond the Paris conference? Is it the verification issue, or is there something more?

General BURNS. No. I think there were two issues before the conference. One was the necessity for a global appreciation of the problem and global accession to this convention.

I think we have achieved that. That does not mean that everyone is going to sign up, but I think the pressure is going to be immense on countries to accede to the convention when it is finally drafted.

That leaves the verification issue. And I think the verification issue is the one that we should concentrate upon right now. I do not know what the solution is, quite frankly. I think we need to, as a nation, as an arms control and disarmament agency, we need to put much greater emphasis on solving that verification problem.

What is effective verification? It is a system by which we can have a high level of assurance that we will be able to detect a violation of the terms of the treaty early enough so we can do something about it. That is sort of a simple layman's definition, I think, of effective verification.

What do we need to do to implement those words? First of all, we need a system of onsite inspection which allows us to inspect, with

a certain randomness, suspect or possible production facilities. As I mentioned in my testimony earlier, in the next couple of months, we are taking a major step down this road by doing, in 14 different nations, national inspections on a voluntary basis of a civilian commercial chemical plant.

This is going to give us some insights into what it is we are really looking for. Then these inspections will be internationalized, where we will inspect each other's facilities.

I think this is going to give us a basis upon which we can build a regime of onsite inspection.

Senator KERRY. Is it not true that you are going to have to accept that a certain number of facilities, by virtue of their secretive nature—either commercial or military—are simply not going to be opened up to inspection?

Is that not a reality?

General BURNS. That is a problem.

Senator KERRY. Beyond being a problem, is it possible to arrive at a protocol that accepts that risk, measured against the larger gain of having random inspection of the vast majority, as well as a protocol which binds most nations to an international standard of not having chemical weapons?

Is there a tradeoff there that is worthwhile?

General BURNS. Perhaps there is, Senator. I would not want to admit just yet that there are facilities which are going to be first-class, noninspectable and then second-class, inspectable facilities.

Yes, there may be some facilities that would be noninspectable because it is obvious that they cannot produce chemical compounds. As far as military facilities, military facilities, should not be producing chemical weapons, or have the capacity to do that. So, military facilities, per se, should not be excluded.

Now, the problem of proprietary rights, I think, is a very important one. We have laws in this country that protect proprietary rights.

I think we made some progress in this area in dealing with proprietary rights in the INF Treaty, where we had some difficulties in dealing with proprietary rights for inspections, both in this country and our basing countries. And we were able to work those out. But it was on a very small scale. Now, we are talking about a very large scale.

What does one need to see in a chemical plant to determine that it is not making chemical agents? Those are the things we are going to have to determine in these trial inspections.

I do not know what the answer is, Senator, but it seems to me that there is a good possibility that we will be able to determine those key things which would enable a plant to be converted to a chemical weapons plant in a reasonable period of time. And, therefore, we do not have to inspect those things which might be of a proprietary nature.

Senator KERRY. Part of the willingness of companies to give up that proprietary interest and part of the willingness of countries to give up a sovereign interest, conceivably, as warped as it may be, will stem from the perception that the United States and other possessors and manufacturers are serious—as you said, coming together in Paris with this commitment.

The lack of sanctions against Iraq seems to send a contrary message. President Reagan, last year, said that Iraq's use—in fact, I think the quote was—jeopardized existing moral and legal standards. And I think we all accept that. And yet, nothing happened.

Does that build a larger argument now, for us considering moving more authoritatively with respect to Libya, and even retroactively with respect to Iraq, itself?

General BURNS. I am not sure it does, Senator. The situation in Iraq was unique because we had two objectives. One was to deal with the use of chemical weapons, but the larger issue was to stop the war. I think we stopped the war.

The secondary issue, the use of chemical weapons was dealt with, within the larger context. That is not the case in Libya. The policy of the Reagan administration, and I presume the continuing policy of the Bush administration, will be to deal with the Libyan problem of CW and other difficulties with Libya, using a whole range of policy instruments.

And beyond that, I really cannot go, because it goes beyond the scope of my responsibilities. But I hope that we do not overlook past performance as we look to the future and attempt to see that no one else joins the chemical club.

Senator KERRY. As a military person as well as somebody deeply concerned about this issue and international security, would that range of options—in your opinion, not as a member of the administration, but in your personal opinion—include the potential for some kind of preemptive action that could eliminate the capacity of Libya to further develop—similar to what happened with Iraq and the nuclear powerplant with Israel?

General BURNS. I would not want to draw comparisons to what another nation did and what the United States might do. But I certainly could not rule that out as an option. But that is strictly a personal opinion.

Senator KERRY. Do you believe there is an adequate range of potential multilateral sanctions that could have an impact on Libya, or is that simply out of the question?

General BURNS. Well, you know, we have believed over the years that sanctions would work and we have been applying sanctions, multilateral, and bilateral. And Libya is still a problem for us.

There is still a range of possible policy options that we could continue to consider. But what was interesting was that Libya was present at the Paris conference. Libya, along with Iraq, was quite defensive. And it was not so much what was said from the floor by other countries, but what was said in the corridors and the halls that was important. And the message I got was that there is a general concern and general agreement with the United States that the present Libyan Government is a real threat to the comity of the world.

I think that is the important thing that we should recognize coming out of the Paris conference. Not so much that nations agreed to sanctions, because they did not go there prepared to agree to sanctions. Not that the United States announced what it would do unilaterally because that would have disturbed the general agreement, of the conference.

What is important though is the United States' view of Libya and Iraq and other countries is now the prevailing world view. That is important. That gives us the basis from which we can operate, the basis from which we can draw additional attention to anything that the Libyans might do in the future. I think that is the real success of the conference.

Senator KERRY. Accepting that, and I do accept it, I think that is a success. One looks at past efforts to restrict the transfer of technology and it has really been met with mixed success.

I wonder if you think now that there are some specific steps that might be implemented that will be more successful at restricting the transfer of those technologies which are so critical to the fabrication of chemical weapons?

General BURNS. Well, first of all, I think that restrictions on the transfer of technology, and precursors and equipment, while it has been effective only to a certain percent, has been effective.

What we have done has made it much more expensive, much more difficult for nations to acquire these kinds of things. Where they may have been able to go out on the open market and buy a common chemical, now, the open market is closed to them. They must by in small quantities, and they must buy in circuitous routes and so forth. In a country, even a country with tremendous cash assets, such as Libya, it is more difficult for them.

What are the other things that can be done? It is going to be not so much new things that can be done, but the continued pressure through old modalities. If we are now cutting off 50 percent of the supplies of these, let us try to get 70 or 80 percent. If world opinion was focused to a degree in the past, it is focused more now.

So, let us continue to press along those lines.

Several members of the committee cited press reports today concerning proliferation of chemicals, proliferation of missiles. Six months ago you saw very little in the press. We had several hundred members of the media of the world, several thousand, I believe, in Paris. And the news stories are still coming.

I am a great believer in world opinion as having a long-term effect on these things, and I believe we are on the road to being able to achieve success in that area.

Senator KERRY. Well, I guess we are all hopeful. But one remains particularly apprehensive about world opinion having that kind of effect on a Qadhafi. And I suspect that it may be necessary to keep all our options open and on the table, as you have said, and to think about how we can proceed.

President Bush indicated, on many occasions obviously, that he favors continuation of agreements with the Chinese and the Soviets to control the spread of ballistic missiles, particularly with regard to terrorist states.

Is there any inclination to now seek that kind of an agreement with all nations capable of producing ballistic missiles which could carry chemical warheads?

General BURNS. Well, as you know, Senator, the missile technology control regime went into effect a little over a year ago among the seven countries with major capability to produce missiles.

And we believe this has been rather effective in cutting off the flow of parts of missiles and missiles themselves to various parts of the world.

There are several countries with the capability, however, who are not included, and we are looking at ways now to include them either in a broader agreement or through bilateral efforts to have them accede to the same principles as MTCR.

I was in China this summer discussing with the Beijing government our concerns about their sales of missiles. We have had a number of bilateral discussions with the Soviets about proliferation of missiles. And I must say, the Soviets seem to be concerned about the problem.

We are looking at ways of encouraging other nations, developing nations with a missile production capability, not to export these missiles as a means of earning foreign currency. And I think we are having some success along these lines.

But it is again, an area where there is no simple dictate which works. We have to work through multilateral organizations, through our bilateral relations, bring what economic pressure we can bring from time to time. And I think that is a success.

Senator KERRY. Why not move beyond that, General, making it an avowed policy goal of the United States in its negotiations. We have been really devoid of initiatives in this field. We have been reactive now, essentially, with the exception of the zero-zero option, which was put out fundamentally as a joke, as a stopper to talks. And then, lo and behold, to the surprise of everyone, Gorbachev picked up on it, and it produced the INF.

But there have not been any broad initiatives of the United States. Why not make the initiative a ban of all missiles which could carry chemical warheads? Why would that not make sense as a goal?

General BURNS. Well, MTCR is much broader than that. It bans far more missiles than those that can carry chemicals.

We have advocated that in the past and we continue to advocate it now. Now, you suggest a universal ban on traffic in missiles. That is certainly worth considering. I am not sure that that would achieve any more than we are achieving now, through our multilateral and bilateral efforts. But I suppose you could have said that about the Paris conference last September. You know, why have a conference; why focus attention on something?

So, I think it is something worth considering.

Senator KERRY. How would you characterize the present policy of the Chinese with respect to the sale of missiles which could carry chemical warheads?

General BURNS. Very circumspect. I believe they have gotten the message and they recognize our concern, and I think they share our concern because of the problems that could arise if they started a new cycle of exporting ballistic missiles.

Senator KERRY. Is there any way in the immediate discussions to press them to take that step and go further into a posture that is more than circumspect?

General BURNS. Well, I do not know, Senator, whether there is any—again, I am sort of satisfied that the policy that we have right now is working as far as the Chinese are concerned.

I think one of the difficulties, of course, is that for the developed world, particularly the United States, to attempt to influence unduly, from the perspective of the individual being influenced, their foreign trade policies, is looked upon as self serving, to say the least, for the United States. And I think that we have to avoid that.

I think that what we have to do is to make our case rather solidly, demonstrate the evil which pertains to these kinds of exports, and deal with them on a case by case basis.

Otherwise, the United States could be in a position to be criticized for attempting to use national security reasons to foster domestic economic policy.

Senator KERRY. Do you think that there has been a positive effect on this process by the U.S. renunciation of chemicals?

General BURNS. The U.S. renunciation of chemicals?

Senator KERRY. Well, for instance, stopping the production of binary nerve gas?

General BURNS. I do not think that has anything to do with it, Senator. I think the United States is replacing part of its unitary stock, because the United States, since World War I has maintained a credible chemical deterrent. And I think it is important that the United States maintains that now, particularly since we seem to be approaching the possibility of a total ban.

I do not think it would be wise for the United States, at the present time, to unilaterally eliminate its stocks, which is essentially is what we would do if we stopped production of binaries, since we have a program to eliminate unitary stocks.

In 1969, the United States unilaterally eliminated its biological warfare stocks. We signed a treaty in 1972. We are still concerned to this day about violations of that convention.

So, giving up our stocks in a unilateral way did not seem to influence, particularly, the Soviet Union in this regard. Now, there is not a perfect parallel between the two, but I am just very concerned about giving up our stocks at this particular juncture.

Senator KERRY. I would like to come back, just for a moment, to the verification issue and then I will stop. But seeing no other colleagues competing for time, I am going to take the luxury of this, if I can, and I thank you for your patience.

One of the schools that I went to when I was in training to go to Vietnam was Nuclear, Chemical, Biological Warfare School. And I can remember back in the late 1960's, learning things, without violating any classification, about our abilities and the abilities of some of these weapons in the smallest form, both to be fabricated as well as to carry the most extraordinary damaging consequences.

And in light of that and of obvious advances in chemistry and technology and so forth, it seems to me that we may be creating in this a shibboleth of verification—which is important and I do not mean to say that it is not important. I think there are huge, major chemical production pieces and major delivery systems and so forth that one can deal with.

But I keep coming back to the question of whether or not there is a cutoff point where we are much better off taking the mood and the willingness to ban, and to have nations come together before others create those systems, recognizing that there will always be

the potential that terrible consequences will result from those small amounts to be delivered and to be created.

Is that not the hard reality of where we are in terms of knowledge and capacity to produce?

General BURNS. I think to say what you said a little different way, there is no such thing as absolute verification. So, we should not write treaties with the implicit or explicit assumption that this treaty will be verified absolutely.

Take the INF Treaty—the INF Treaty calls for the total elimination of certain stocks of certain weapons, and the memorandum of understanding specifies what they are.

So, the first part of the treaty is accomplished when we eliminate all of those stocks and that is what we are doing now. Then there is a commitment not to have any more of those stocks and not to manufacture and so forth. And there are provisions in the treaty which allow us to do those things.

There is always concern, of course, on cheating. And one must make educated determinations of the evidence of cheating to see whether this cheating takes place or does not.

With chemical weapons—the problem, of course, is the sheer complexity of dealing with commercial enterprises. We have commercial enterprises in the nuclear weapons production area. Those that we do have are under IAEA control.

So, it is very difficult to imagine a regime which will give us anything close to absolute verification.

Now, you raised the question of a threshold. You know, could we come up with a verification regime that identified thresholds of violation? I do not think that we want thresholds of violations, but there may be some indicators, you know, below a certain threshold. We have doubts as to whether it is a violation, but at a certain threshold we know. Maybe there is a fruitful area that we can pursue in there.

But I think the question you raised is an extremely important one right now, and we have to devote some more time and energy to the solution of that question.

Senator KERRY. A last question, do you envision as part of whatever protocol might be arrived at, a predetermined set of actions which signatory countries would subscribe to, if there were a violation—that is, sanctions, retribution, whatever. Could you conceive of that? Is that on the table? Might it be? Would it be advisable?

General BURNS. You know, the sanctions under the U.N. Charter are there for people who violate international agreements. And I think it would be fruitful for us to reexamine the future role the United Nations could play in the, what do you do if a treaty is violated category?

For a number of years we have had difficulties dealing with what many people believe is a moribund body because of the inability of the Security Council to act, and so forth.

As the world changes, and I am not sure it has changed enough yet to really say whether it is going to change or not, but if it does, then perhaps we should look at the Charter of the United Nations to see if those things which were done in the spring of 1945, in San Francisco, might not be applicable 40-odd years later, and cannot be used to put teeth into some of our treaty obligations.

The sanctions are there and if the so-called Big Five agree, the Security Council can take action. And the last time we did that was in 1950.

Senator KERRY. Thank you, very much, General. Thank you, very much, Mr. Chairman.

I wish you well on these endeavors.

The CHAIRMAN. Thank you.

I congratulate you on the fine job you are doing at ACDA. I would like to observe, too, that when it comes to treaties and sanctions, that I wrote a book once, making the point that I could not recall a single country that has ever honored a treaty to its national disinterest. That is why the sanctions have to be made sufficiently disagreeable so that the country will honor the treaty. But I defy witnesses who have come up here to name a country that has honored a treaty in violation of its own national interest, the possible exception being Great Britain in World War I, when Belgium was invaded, and World War II, when Poland was invaded. And they would have done well to hold back 6 months before going in.

If you can think of an exception, I wish you would send it up to me.

General BURNS. I will think about it, Senator.

Thank you.

The CHAIRMAN. Thank you, very much, indeed.

Again, congratulations on the good job you are doing. This hearing is adjourned.

[Whereupon, at 12 noon, the hearing was adjourned, to reconvene at 9:34 a.m., Wednesday, March 1, 1989.]

CHEMICAL AND BIOLOGICAL WEAPONS THREAT: THE URGENT NEED FOR REMEDIES

WEDNESDAY, MARCH 1, 1989

U.S. SENATE,
COMMITTEE ON FOREIGN RELATIONS,
Washington, DC.

The committee met at 9:34 a.m., in room SD–419, Dirksen Senate Office Building, Hon. Claiborne Pell (chairman of the committee) presiding.

Present: Senators Pell, Simon, Robb, Helms, Lugar, and Humphrey.

The CHAIRMAN. The committee will come to order.

I am very glad to welcome the Director of Central Intelligence, the Hon. William Webster, before our committee today.

At the committee request, the Director has agreed to appear before our committee to testify in open session on the troubling, critically important issue of chemical and biological weapons proliferation.

The world was reawakened to the immediacy of the chemical weapons problem by the use of those dreadful weapons by both sides in the Iran-Iraq war. These actions were the impetus for the January Paris Conference on the Prohibition of Chemical Weapons.

Our committee is now holding a series of hearings on the chemical-biological weapons issue. We have already heard from the Director of ACDA.

In the next few weeks, we will hear from other witnesses in the administration.

I would add that I have introduced, with 18 other original cosponsors, S. 195, the Chemical and Biological Weapons Control Act of 1989.

Senator Helms and Senator Dole have also introduced legislation designed to deal with significant aspects of the problem.

Our committee will be weighing these proposals at the conclusion of our hearings.

The appearance of the Director this morning should help the committee and the public gain a better appreciation of the magnitude of the problem and the particular activities of concern.

I am delighted that he is willing to discuss this on the public record.

I would remind Members that there are certain aspects of the issue which the Director is not prepared to discuss in open session, and these matters are identified in the committee memorandum

for this hearing. We will meet again in closed session, at 2 p.m., to receive a classified briefing from Agency analysts.

I would now turn to the ranking minority member, Senator Helms.

Senator HELMS. Good morning, Mr. Chairman.

Good morning, Judge Webster. Do you suppose we could do anything about the traffic situation in Washington, DC.

Judge WEBSTER. I wish we could, but no.

Senator HELMS. I understand you were held up a little bit this morning as well.

Judge WEBSTER. Yes.

Senator HELMS. In any case, we welcome you and thank you for coming to discuss the roaring proliferation of chemical and biological weapons.

Thanks to the excellent investigative work by the U.S. Customs Service, an attempt by an American firm in Baltimore to ship mustard gas precursor chemicals to Iran was blocked.

Last month, the American firm agreed to plead guilty, and some American middlemen in New York have been arrested. I know that you know all about that.

By contrast, this is the West German Government's report [indicating] of German firm involvement with Libya. Page 42 of this report, to which I alluded just a moment ago, states that on January 12 of this year, the German customs service raided a German firm. They found telexes concerning the supply of the very same mustard gas precursor chemicals to Libya, by way of Hong Kong.

The report concludes as follows, and I quote: "An analysis of these documents does not reveal any indication of illegal shipment of goods."

Well, la-de-dah.

We now know that with the knowing assistance of German industry, Iran, Iraq, Libya, and Syria have acquired or are about to acquire chemical and biological weapons of mass destruction. And all four of these countries are dictatorships, and all four are in an official state of war with Israel.

Now, 42 German firms have been publicly identified as participating in this dirty business, and the flagship of the German telecommunications industry, Siemens, stands accused by the West German press of providing the most critical equipment of all to Qadhafi's poison gas plant. Siemens is still saying that it thought that the 10.5 tons of high-technology equipment it shipped was going to a pharmaceutical plant in Hong Kong.

Now, if anybody believes that, I have some swampland down in eastern North Carolina that we can negotiate on.

In any case, a damage limitation game is going on in Bonn. Some useful changes in German export control laws have been proposed, but the credibility of German officials is still in doubt.

For example, the German Government has not even called in these firms and told them to stop selling parts or providing services. For all we know, the Germans are still in Libya, helping Qadhafi get his poison gas plant online or the delivery systems up and operating.

So, what goes on here?

The Japanese are involved just as much. No one should be surprised when Toshiba's name comes up as a supplier to Qadhafi's poison gas complex. There is a lot of money, you see, to be made, sometimes double and triple profits.

Now the distinguished chairman and I have cosponsored, as he indicated, two pieces of legislation to deal with this problem. The first bill would punish countries that use poison gas on their neighbors and even on their own citizens, such as Iraq did to the Kurds.

The second is designed to bring an immediate halt to this highly profitable trade in items of chemical and biological death. I have every anticipation that legislation combining both approaches will be approved by this Congress.

I thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Helms.

I will now turn to the Director of Central Intelligence, Judge Webster.

STATEMENT OF HON. WILLIAM H. WEBSTER, DIRECTOR OF CENTRAL INTELLIGENCE

Judge WEBSTER. Thank you very much, Mr. Chairman, members of the committee. I am honored to appear before you to discuss the very serious problem of the proliferation of chemical and biological weapons.

Chemical weapons proliferation is part of the disturbing trend of weapons development in Third World countries. Currently, we believe that as many as 20 countries may be developing chemical weapons, and we expect this trend to continue, despite ongoing multilateral efforts to stop their proliferation.

A major question we are now addressing is what lessons have been learned from the Iran-Iraq war, the first war since World War I that involved sustained use of chemical weapons.

After the First World War, the use of chemical weapons was outlawed by the signers of the 1925 Geneva Protocol. During World War II, even during the most desperate battles, both sides refrained from using chemical weapons, weapons that Winston Churchill referred to as "that hellish poison."

The Iran-Iraq war ended that restraint and set a dangerous precedent for future wars. The intelligence community has evidence that Iraq used chemical weapons against Iran and also against Iraqi Kurds. Iran, too, employed chemical weapons against Iraqi troops.

Chemical weapons are thought to offer a cheap and readily obtainable means of redressing the military balance against more powerful foes. Some see them as the poor man's answer to nuclear weapons. Our President has spoken out strongly against this problem, and I am sure that you have read many accounts recently about the use and effects of chemical weapons.

Many countries are developing mustard gas, a terrible weapon first used in World War I. It is a favorite chemical agent for several reasons: Its relative ease of manufacture; its long life in storage and on the battlefield; and its ability to incapacitate those who are exposed to it.

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Some countries are also developing nerve agents. These agents, though more difficult to manufacture, can cause death by attacking the brain and nervous system. Other nations may use common industrial chemicals, such as cyanide and phosgene. Cyanide prevents the blood from carrying oxygen, while phosgene, widely used in making plastics, can destroy the lungs.

Along with the proliferation of chemical weapons, two equally disturbing developments are the proliferation of both biological weapons and ballistic missiles.

We are concerned that the moral barrier to biological warfare has been breached. At least 10 countries are working to produce both previously known and futuristic biological weapons. Biological warfare agents—including toxins—are more potent than the most deadly chemical warfare agents, and provide the broadest area coverage per pound of payload of any weapon system.

The equipment used to produce biological warfare agents is truly dual-use in nature. With currently available technology, biological warfare agents can be produced at such a rate that stockpiles are no longer as essential as in the past.

There are no precursor chemicals or equipment that can be used only for the production of biological warfare agents. Actually, any nation with a modestly developed pharmaceutical industry can produce biological warfare agents, if it chooses.

Finally, by the year 2000, at least 15 developing countries will be producing their own ballistic missiles. Ballistic missiles convey important new political and military status to those who acquire them. Many countries where these missiles are being developed are in the Middle East.

All of the Third World missile development programs rely on foreign technology to some degree. But much of this critical technology is already diffused throughout the world, is available for other purposes, or can be easily diverted. There is also extensive sharing of technology among Third World missile countries, and they are increasingly pooling their resources and technical know-how.

With the increase of ballistic missiles in the Third World, the intelligence community must be alert to attempts by these nations to arm missiles with chemical or biological warheads. We will continue to provide U.S. policymakers with timely and accurate information on the capabilities of countries to develop and produce ballistic missiles and chemical and biological weapons.

Let me now direct your attention to the troubled Middle East, the current center of chemical weapons proliferation.

The proliferation of chemical weapons affects the prospects for peace and stability in the Middle East. Of particular concern are Iraq, Syria, Iran, and Libya—nations that have either used chemical weapons or have been associated with terrorist activities.

Iraq has produced chemical warfare agents since the early 1980's, with Syria and Iran beginning chemical agent and munition production shortly afterward.

Libya is nearly ready to begin large-scale production of chemical agents and munitions.

Iraq, Syria, and Iran are stockpiling a variety of chemical warfare agents for various battlefield missions. Stocks of chemical warfare agents can often be stored for a period of 10 to 20 years.

These same countries are also quietly producing and amassing a variety of munitions that can be used as delivery systems for chemical agents. Bombs, artillery shells, artillery rockets, and, in some cases, battlefield missiles, have been filled with chemical agents.

The chemical weapons programs of Iraq, Iran, Syria, and Libya have a number of common traits.

All have been given high priority by their governments and have been cloaked in secrecy.

The production complexes have been accorded strict security. In many instances, attempts have been made to conceal them as legitimate industrial facilities.

Assistance by foreign suppliers has been crucial to their development.

Assistance provided by foreign suppliers, many of whom were fully aware of the intentions of the Middle East countries to produce chemical weapons, has been the key element that has enabled these nations to develop a capability to produce chemical weapons within only a few years. And, without this assistance, these Middle East countries would have been unable to produce chemical weapons.

Foreign suppliers have provided the following types of assistance: technical and operations expertise; constructing production facilities; supplying precursor chemicals; supplying production equipment; supplying parts for munitions; and training personnel.

I would like now to provide you with some details about the chemical warfare programs of Iraq, Syria, Iran, and Libya, starting with Iraq.

The war with Iran prompted Iraq to accelerate its program to develop a chemical warfare capability. Iraq has produced chemical agents and munitions since the early 1980's. The main chemical warfare complex, located some 70 kilometers northwest of Baghdad, near Samarra, and a number of other production facilities, have produced several thousand tons of chemical agents.

From the program's inception, firms and individuals from Western Europe were key to the supply of chemical process equipment chemical precursors, and technical expertise. West Europeans remained at Samarra even after it began operations. But, after several years of experience in producing chemical weapons, Iraq's well-established effort now is far less dependent on foreign assistance.

At Samarra, Baghdad produces the blister agent mustard and the nerve agents tabun and sarin. Several types of weapons, including bombs and artillery shells and rockets, have been filled with these agents.

Iraq first made military use of chemical agents in 1983 an 1984, when it began to use mustard and nerve agents against Iranian forces. Baghdad continued to use chemical agents on numerous occasions during the war. More recently, and subsequent to the cease-fire with Iran, Iraq used lethal and nonlethal chemical agents against Kurdish civilians.

Despite the current cease-fire with Iran, Iraq continues to produce and stockpile chemical weapons. Moreover, it is expanding its chemical weapons capability and is taking further steps to make its program entirely independent of foreign assistance.

Syria began producing chemical warfare agents and munitions in the mid-1980's, and currently has a chemical warfare production facility.

Syria has nerve agents in some weapons systems. Damascus conceals its program—it is quite closely held—and, much like its Middle East neighbors, it is likely to continue to expand its chemical warfare capability.

Foreign assistance was of critical importance in allowing Syria to develop its chemical warfare capability. West European firms were instrumental in supplying the required precursor chemicals and equipment. Without the provision of these key elements, Damascus would not have been able to produce chemical weapons.

Iran: In the mid-1980's, after numerous Iraqi chemical attacks, Iran began to produce chemical agents and munitions, later using them in retaliation against Iraq. Iran's chemical weapons production facility is located in the vicinity of Tehran.

Iran produces the blister agent mustard, blood agents, and nerve agents, and, like Iraq, has filled some bombs and artillery with these agents.

Repeated chemical attacks by Iraq against Iranian troops prompted Tehran to seek foreign assistance to quickly establish its own production system. West European and Asian firms responded by providing chemical processing equipment and chemical precursors.

Despite the cease-fire with Iraq, Iran is continuing to expand its chemical warfare program.

Libya: Libya's resolve to have a chemical warfare production capability is about to be achieved. A large complex, consisting of a chemical agent production plant and a metal fabrication facility, in a remote area about 80 kilometers southwest of Tripoli, near Rabta, has been fully constructed for this purpose.

When this site is fully operational, it may be the single largest chemical warfare agent production plant in the Third World.

Because Iraq has a number of production sites, however, its total production capacity will continue to exceed Libya's.

Libya's chemical agent plant is expected to soon begin large-scale production of mustard and nerve agents, potentially tens of tons per day. The plant has already had at least one serious toxic chemical spill, and such problems are likely to continue.

The adjacent metal fabrication area is equipped with precision materials that can be used to manufacture components for a variety of bombs and artillery. Other facilities in this area are involved with filling and storing chemical weapons.

It would have been virtually impossible for Libya to harness the technologies necessary to build and operate such facilities without the assistance of foreign companies and personnel from several West European and Asian countries.

West German assistance has been extensive at the CW production plant. The West German Government, acknowledging that its firms have been involved in constructing the CW plant, recently approved legislation that will strengthen export controls of materials that can be used to make chemical weapons.

Japanese firms provided substantial support at the adjacent metal fabrication area, but we have no indication that these com-

panies were involved in the construction of the CW production area.

Many other West European suppliers have also been involved over the past several years in construction and supply of materials for the entire complex.

Libya's ability to sustain large-scale chemical warfare production will, in large measure, depend on continued foreign assistance. Over time, Tripoli will grow less dependent on foreign technical expertise, but for the foreseeable future will remain dependent on foreign suppliers to provide chemical precursors and equipment.

Assessing the proliferation of chemical weapons is one of the most difficult intelligence challenges we now face.

Because much of the equipment needed to produce chemical warfare agents can also be used to produce legitimate industrial chemicals, any pharmaceutical or pesticide plant can be converted to produce these agents. A nation with even a modest chemical industry could use its facilities for part-time production of chemical warfare agents.

Libyan leader Qadhafi, in a speech delivered in October, claimed that the facility at Rabta is intended to produce pharmaceuticals, not chemical warfare agents. He proposed opening the complex for international inspection. But within fewer than 24 hours, some say 8½ hours, it would be relatively easy for the Libyans to make the site appear to be a pharmaceutical facility. All traces of chemical weapons production could be removed in that amount of time.

The primary purpose of this site, however, is clearly chemical warfare production. The specialized equipment, building design, and security there far exceed the requirements of a commercial plant.

Mr. Chairman, this concludes my opening remarks on the proliferation of chemical and biological weapons. I want to assure you that the intelligence community keeps the administration, as well as the appropriate committees of the Senate and House, fully informed of developments in this area.

I would be glad now to respond to your questions. I appreciate your earlier remarks that I may be constrained by security needs to protect sources and methods. But you will have an opportunity this afternoon to pursue some of those questions in closed session.

The CHAIRMAN. Thank you very much, indeed, Judge Webster.

Do other nations share in our assessment of the purpose and intent of the Libyan chemical plant?

Judge WEBSTER. I know of no country in the world today that seriously disputes our assessment.

The CHAIRMAN. Of the 20 nations which now, as you suggest, may be developing chemical weapons, could you give us a rough idea of how many you think actually already possess those weapons?

Judge WEBSTER. Mr. Chairman, I would rather that question be answered in closed session. I think a significant number of those that I mentioned, including the United States and the Soviet Union, possess this capability at the present time.

Our concern extends to the whole group. But the ability to have an indigenous capability in the future adds to the threat; that is, for a Third World country or a country associated with terrorists to

have its own ability to produce without foreign assistance in the future is of major concern to us.

The CHAIRMAN. Can you think of any actions that we can take that would discourage this trend, this enlargement of the base, of the universe, of those who have the weapons?

Judge WEBSTER. Some of what needs to be done is already being done.

The State Department and the Department of Commerce, who have primary authority for developing policy in this area, have already been working with counterparts around the world to alert public attention, as well as government attention, to the facts, as we understand them.

I think there is a moral suasion at work today that ought to be encouraged.

Laws will help. But they will be difficult to enforce, and we ought to understand that as we approach solutions, legislative types of solutions.

There is considerable disparity between the kind of sanctions that are currently available in various countries around the world, and it is catchup time for many of those countries. They are busily at work, trying to tighten their export controls.

The CHAIRMAN. What is your own view with regard to the effectiveness of sanctions against companies who engage in this activity, against companies or countries?

Judge WEBSTER. First of all, the statutes bring home the official position of that country with respect to the production and use of chemical warfare, and that provides an opportunity for sustained moral suasion, putting the spotlight on these activities.

Proof to support criminal or other sanctions is more difficult to come by. I have yet to see a bill that I think guarantees the end of the problem. But at least it is a start, a serious start, that identifies and commits countries to a serious effort to slow down, particularly countries that already have the capability, slow down the exportation of that knowledge to countries that do not and should not develop those capabilities.

The CHAIRMAN. Thank you.

You mentioned in the course of your testimony that the moral barrier to biological warfare has been breached. Could you elaborate on that, on what you mean there, as to how it has been breached and if there is a momentum behind that breaching.

Judge WEBSTER. It has been breached in the sense that countries are in active pursuit of biological capability. I can only mention one country, the Soviet Union, among the great powers, which continues to work at a biological capability.

The CHAIRMAN. In the last session of the Congress, we had a bill that passed the Senate, but did not pass the House and was opposed by the administration, which sought to clamp down pretty firm sanctions on Iraq.

I wonder if you have any thoughts as to whether the administration has changed its position or would continue to oppose that legislation?

Judge WEBSTER. Mr. Chairman, I don't think I am the person to answer that question. I think that ought to be referred to State Department or Commerce.

The CHAIRMAN. I think your point is well taken.

What has been the effect on worldwide interest in chemical and biological weapons proliferation of our own decision to build new chemical weapons? In other words, we have shaken our fingers at other nations with one hand while building with the other.

Judge WEBSTER. I realize that that presents an apparent problem in consistency. I don't think it is one of hypocrisy because our own efforts are pretty well acknowledged and they are defensive in character.

It does raise a question with those who want to link control of chemical and biological weapons with control of nuclear weapons. And so, invariably, I think that this problem becomes how we view Third World capabilities, the spread, the proliferation of these capabilities to countries that do not regard them with the same moral horror that we do, and see them as a cheap and effective counterstrategic weapon to oppose what they consider to be a nuclear threat in their own region.

The CHAIRMAN. The Soviets have announced that their country had ceased chemical weapons production and would retrieve the old chemical weapons.

Do you believe the evidence supports this declaration, or do we know?

Judge WEBSTER. We really don't know. The announcement was not definitive and did not say what kind of weapons were being destroyed or how many would be destroyed.

I am not aware that that there is any promise to cease production.

Any announcement of that kind is a step in the right direction. But we routinely destroy outmoded, unstable, and ineffective chemical weapons over time. We don't know whether that is what they are talking about or whether they are talking about taking their most efficient stockpiles and destroying those.

I think further discussions in this area are bound to be helpful. As you know, we do have bilateral discussions with the Soviets on these subjects.

The CHAIRMAN. Finally, returning to the question of sanctions, do you believe it would be helpful if the United States were to take a clear stand that would not tolerate the illegal use of chemical or biological weapons by establishing a sanction to be imposed against any nation which used the chemical or biological weapons illegally?

Judge WEBSTER. My own view is that the illegal use of biological weapons should be subject to sanctions. There are some counteraspects that can be discussed this afternoon, but none that I think are important enough to outweigh the impact of dealing with use, illegal use.

The CHAIRMAN. Here you would lump together, then both biological and chemical weapons?

Judge WEBSTER. Well, I am getting dangerously close to policy, and I want to avoid that, if I can.

What is significant in the Middle East, it seems to me, and sets it apart from nuclear capability, is that these weapons are being used. Not only are they being collected and assembled, but they are being used. That is the difference.

Until recently, there has been no public outcry against their use. All during the Iraq-Iran war, we saw very little world reaction to their use. We are now seeing that other nations are finding that very appealing, and not only is foreign expertise being sought and paid for, but there is some sharing among people who are not turned off by the use of chemical warfare.

The CHAIRMAN. I thank you very much. We did have legislation that passed the Senate in that regard. It was blocked in the House and the administration opposed it.

So, I would hope, as a result of these hearings and further thought and development, that the firmness of our resolve in this regard would be increased to where we could get legislation like this passed.

I thank you very much, indeed, and would turn to Senator Lugar.

Senator LUGAR. Thank you very much, Mr. Chairman.

Judge Webster, you mentioned in your statement that no nation seriously disagrees with our assessment on Libya.

Is that true with regard to Syria, Iraq, and Iran? In other words, you mentioned four countries specifically that you believe have a capability, and, in at least two countries, Iran and Iraq, they have used chemical weapons in warfare.

Is it your judgment, from your knowledge of other countries, that all countries in the world believe that these four countries have these capabilities and, in two cases, have actually used the weapons?

Judge WEBSTER. I believe that is true. In fact, there are other instances where chemical warfare has been used. It was used in Chad briefly by the Libyans. I could name a few other examples.

They keep their own capabilities just as secret as it is possible for them to do. But I have not heard any real argument disputing our findings. They question whether this is an anti-Arab move on the part of the United States.

Senator LUGAR. The reason I raise the question is that some Third World theoreticians or politicians have disputed that Libya is making chemical weapons. A group of Australian parliamentarians even went to Libya to try to prove that this was not so.

Now, if there is this general feeling among all the governments of the world, how can there be such a dispute in world opinion on the Libyan capability?

Judge WEBSTER. Senator Lugar, it has been my observation that, in matters involving chemical warfare, terrorism, and other sensitive subjects, where there is an element of trade and other kinds of relationships, there has not infrequently been a slowness to come to grips with the available intelligence.

Some countries delay that decision on the theory that their own laws are inadequate to deal with it, that there is nothing in their own laws that prevent a company from going out and supplying that kind of expertise.

Others—I'm thinking of terrorist-type situations—want to avoid confronting the facts. And so, there is a sort of persiflage that goes on. But, currently, I am not aware of any country that wants to make the serious argument that the U.S. intelligence observations are incorrect.

Senator LUGAR. I think this testimony is very important. Without being tedious about it, are you asserting that all of our allies in NATO have basically the same intelligence assessment?

Judge WEBSTER. I don't know that they have the same intelligence assessment in terms of their own intelligence capabilities, particularly national technical collection means. But a good deal of this intelligence has been shared, and I am not aware of any who come to different conclusions about it.

Senator LUGAR. So, whether obtained by indigenous sources or through shared means, they have the same data base, and the analysis that you are offering is that sometimes the laws of a specific nation do not encompass illegal activity of this sort, as we see it. In other words, there is illegal activity going on and there is reticence to come to the same conclusions as the United States, even if they have the intelligence.

Judge WEBSTER. That is exactly correct. That is my view.

Senator LUGAR. Sort of a slowness.

I ask this because, clearly our own policies must be designed so that both our friends and our foes come not only to the analysis more quickly, but the action that might be required.

Judge WEBSTER. You have summed up what I said better than I could.

Sometimes the messenger brings news at a time that is not convenient to confront these issues because of internal political issues, and that is another factor.

Senator LUGAR. I am intrigued by another part of your testimony, in which you pointed out—and Senator Pell has underlined this—that the moral barrier has been breached not only by capabilities or facilities, but by use, and that the world did not respond very adequately or in a very timely way to this; and, beyond that, that this is occurring in the Middle East, where it is possible that nations share the same intelligence but share different values, or may have a very different idea as to the efficacy or the moral questions with regard to the use of these weapons.

It has, I suppose, been a surprise to many persons in the United States, as well as in Europe, that our values, with regard to the current dispute over the Rushdie novel, with regard to freedom of speech, freedom of publication, book selling, and what have you, are not shared by everybody. Clearly, the Ayatollah Khomeini does not share them.

People are dismayed that, given these facts and values which we believe are so evident in our national history and ethos that other persons do not have the same reverence for freedom of speech. Obviously, they don't have the same reverence with regard to the destructive capability of chemical weapons, either.

This seems to me to pose a dilemma, that, even if you have shared intelligence, if you don't have shared values, maybe people do not feel that the moral barrier was breached at all. Some have said that chemical weaponry is sort of the poor man's nuclear weapon, or it is a way that if your nation is facing survival, you don't hesitate to do what you need to do.

In view of that, how are we to confront these predicaments?

As an intelligence gatherer, you sort of find the facts, and these are normally shared. But, if there are not shared values, how do we proceed?

Judge WEBSTER. That is a very difficult question to answer. But I think it is incumbent upon this country to make its strongly held views known and understood to those with whom we have other types of relationships, and get them to listen.

One of the concerns that I have in respect to the Libyan plant is its excess production capability. It is far more than Colonel Qadhafi could ever need or use by any stretch of the imagination.

Is this now going to become a new brokering capability for other political objectives?

Unless there is some approach to the moral issue, it becomes just another form of important currency.

Senator LUGAR. This may stretch your testimony and analysis, but, as I listened to you, it appeared to me that there were parallels between the subject on the table today, the chemical weapons issue, and our national battle against terrorism which we hope is shared generally in the world, our more affirmative values of freedom of speech, and other freedoms.

In other words, we have a multifront program, it would appear.

Now, others in the Middle East may not share any of these values. But it seems to me that we are trying to affirm, as a country, that Great Britain, France, Germany, Italy, the countries in Western Europe that we have dealt with, and NATO, certainly ought to share them; that if there is any ambivalence on the part of any of us in the Western Alliance with regard to terrorism, freedom of speech, or chemical weapons, then we really have very large problems.

I draw from your testimony that if all of our friends shared these sentiments and stopped the transfer of technical expertise or the shipment of parts or chemicals to those who are breaching our moral values, that might not dry chemical production up, but it would certainly cut it down to a small trickle.

Judge WEBSTER. It would certainly slow it down.

You suggest to me a reasonable analogy between this problem and trying to marshal forces against drug proliferation.

It has been my observation that many countries, which were merely transit points, were not terribly interested in effective collaboration until the drugs started coming into those countries and the countries became user countries.

We may find some way to convince some of the countries that are currently trying to acquire this capability that the risks of being a victim are very substantial to them, and they have a common interest in controlling it.

Senator LUGAR. I appreciate very much your public testimony and I also look forward to the closed session on various other aspects of this issue. But the public testimony, the assertion that this is shared knowledge, worldwide, that the world cannot dispute the fact that these production facilities are there and that use has occurred, this is important to confront publicly, as opposed to it being merely held secret or confidential material. That very knowledge is the basis upon which we must deal in public diplomacy with our

friends, it seems to me, as well as those who do not share our values.

Judge WEBSTER. We have been willing to give the kind of testimony that I have offered this morning in order to achieve that purpose.

But I have to offer the caution, I think the important caution, that some of the intelligence that has been developed in the countries I have been able to mention, is single source information, very sensitive, involves some of our most sensitive technical collection, and how we use the intelligence that we provide you in private is very important to our ability to continue to sustain collecting that information in the future.

So, we have to work together on what can be said publicly, as distinguished from the kind of information that we can provide to you privately.

Senator LUGAR. Mr. Chairman, I know my time is up, but I thank you for calling the hearing and offering a basis for our thinking, as we proceed in Geneva, about the proliferation problem and its control. This is because the verification of any agreement or treaty is of the essence—we all know that—and the ability of our own intelligence people in the United States to develop this capacity is really essential, in terms of the confidence of the American people, in any agreement to which we would enter.

Thank you.

The CHAIRMAN. Thank you very much.

Senator Simon.

Senator SIMON. Thank you, Mr. Chairman.

First, I am struck, Judge Webster, by the forthrightness of your statement, and I applaud that. You are, I use your former title here because once you are a judge, you are always a judge, you are used to some caution in determining things. But it is very, very clear from your statement that we are dealing with four countries that have not always been responsible members of the community of nations in terms of terrorist acts and so forth.

There are four countries where you say, very, very clearly, that the evidence is there, on production.

How many countries altogether, around the face of the Earth, are involved in chemical and biological weapons production?

Judge WEBSTER. Well, I believe in my testimony I said that some 20 countries are actively pursuing this capability. Some have achieved it; some are on the edge of achieving it; some have a way to go. This is not just in acquiring the chemical weapons, but acquiring the capability to produce it themselves.

I don't think I can go beyond that in a public statement, but you may have more details this afternoon.

Senator SIMON. Well, the public statements that have been made about West Germany and West German firms being involved in Libya clearly have had an impact, at least temporarily, in West Germany.

Is there any reason that we should not identify publicly other nations and the firms of other nations that are involved in assisting these four nations in their chemical and biological weapons production?

Judge WEBSTER. We did identify the fact that Japanese firms were involved in the fabrication facility which is adjacent to and complements it. There are others.

Our concern, primarily, is in protecting our sources and our methods of collecting this intelligence. It is my understanding that Secretary Shultz sent delegations to all of the countries involved, to discuss with them the activities of their citizens and the nature of the support that was given, and to urge their cooperation and assistance.

I think we are reluctant to make any further public statements without very considered effect, a study of the possible impact upon our collecting capabilities. That is the primary reason for asking not to name them at this time.

Senator SIMON. All right. I guess, to the extent that we can protect our sources, if we can identify the "ABC Corp." in "Whatever Country," I think we ought to be doing it. I think that is really important.

Is there any cooperation we are receiving from the Soviets, in terms of identifying the areas where there is chemical production? Is there any evidence that the Soviets are willing—and maybe this is getting out of your area of jurisdiction—any evidence that the Soviets are willing to work with us in reducing this threat to all humanity?

Judge WEBSTER. It is getting a little out of my area. As we noted earlier, they have announced some destruction programs and said that they were going to stop production last April, a year ago, I think. That creates a more healthy environment for the annual, bilateral discussions that we have with the Soviets, usually in connection with other multilateral meetings.

My sense—and it's only my sense—is that, as a world power, which can be more greatly threatened by this type of activity than a lesser power—it is an equalizer type of weapon—their interests are not substantially different from our own, and that there is a willingness to discuss ways and means of lowering the threat level in this area.

Their interests in the Middle East and other places are more complicated and maybe asymmetrical from our own. So, it's hard to know how far they will go with this.

But it seems to me that there is an avenue there that needs to be pursued and is being pursued.

Senator SIMON. I think it really should be actively pursued, because, as you look at these four countries, three of the four are supplied weapons by the Soviets, and, apparently, they are on the verge of making an agreement with Iran to supply weapons.

Judge WEBSTER. That's right.

Senator SIMON. It seems to me that it is not asking too much that they condition those weapons supplies on restraint in this area.

I want to commend you for a very forthright statement. It is a disquieting statement. We don't have a lot of Members here today. I wish we had the whole House and Senate here to listen to what you have to say. I think it is that important.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you very much.

Just to follow up a little bit on Senator Simon's point, what is your own feeling, or your perception? Do the Soviets share our horror of the use of chemical and biological weapons, or do you feel that their concerns are less?

Judge WEBSTER. I don't think I am in a position to apply a value system here. Just on pure principles of expediency—pragmatism, self-interest, whatever you choose to call it—there is no advantage that I can see to the Soviets wanting to see this kind of capability spread around the world into other troublemaking hands.

And so, the only difference is that they continue their efforts to develop a biological warfare capability while we do not. This needs to be explored.

The CHAIRMAN. From a geographic viewpoint, they should be more reluctant than we to see this occur because these countries are on their periphery; they are not on our periphery.

Judge WEBSTER. That's true.

The CHAIRMAN. Do you believe that a chemical weapons ban could be monitored sufficiently so that we could have a real chance of catching any violators of it?

Judge WEBSTER. As I said earlier, it is the most difficult challenge that we have in the intelligence community. These plants all can be converted. You can make a plant that will look like a fertilizer plant or a pharmaceutical plant.

In all the negotiations, we have been talking verification as a very important part of any kind of multilateral treaty. But this, in itself, is going to be costly and difficult, and, presently, the level of confidence is quite low, because, unless you can go anywhere, any time, these plants can be cleaned out and made to look like a legitimate enterprise on very short notice.

There are some clear intelligence indicators, but they can be removed.

So, it is going to be very difficult, and it also presents a problem for strategists and policymakers in this area because everything that we require for verification would necessarily be reciprocal.

We would have to be in a position to protect our own assets, which have nothing at all to do with chemical warfare problems.

The CHAIRMAN. What is your view as to the possibility or the probability of terrorists acquiring biologic or chemical weapons? We always read novels about them acquiring a nuclear bomb, but you never read a novel about them acquiring a chemical or a biological weapon. Do you think that could come to be?

Judge WEBSTER. We are very much concerned about that. We have no hard evidence that any of the countries which are sponsoring terrorism or have sponsored it in the past have purposefully supplied terrorists with this kind of weaponry.

But, over time, we have seen terrorists acquire other forms of sophisticated weapons through stockpile acquisition, stockpile thefts. Just the fact that there is an association there raises our consciousness and concern about it.

In fact, I would be more concerned about this risk than that terrorists would acquire a nuclear capability. It is much too difficult to have the competence. Even if you could steal a nuclear weapon, it is much too difficult to acquire that and use it, when there are so many other weapons of terrorism readily available.

The advantage to a terrorist of chemical weaponry, particularly biological weapons, is that the instrument of destruction can be very small and easily concealed, and utilized in places like the ventilation system of a key building.

And so, the potential for lethal consequences is very high, without all of the difficulties that would be encountered in trying to do the same kind of thing with a nuclear threat.

The CHAIRMAN. This is a question to which I should know the answer. Biological weapons are basically bacteria, then?

Judge WEBSTER. I am not a biologist, and I want to be careful how much I say on the record.

They are basically organic type materials, as distinguished from chemicals, some of which, when ingested into the system, become toxins.

The principal advantage to them can be summed up in that there is a potential for a bigger bang for the buck—more damage for the same cost.

The CHAIRMAN. I thank you very much, indeed.

Senator Lugar.

Senator LUGAR. I would just like to follow on the chairman's question.

If I gather correctly what you said, there is no evidence that anyone, other than a government, is presently involved in the production of chemical weapons. I would like to make clear that distinction.

For instance, sometimes there is an argument over state-sponsored terrorism, as opposed to terrorism of some other variety that is not state-sponsored. But, in the case of chemical weapons, does all of our intelligence lead us to believe that this is a governmental enterprise in each instance?

Judge WEBSTER. That's correct, Senator.

I cannot foreclose the possibility that some better organized and more technically capable terrorist groups are looking into this. But our evidence is focused on the countries themselves.

Senator LUGAR. The reason I ask this is that you mentioned the fact that these facilities can be set up, and that they may be fairly small and remote. It would appear, at least, at some point in human history that a group other than a state or government might be able to adopt that sort of technology for its own purposes.

Judge WEBSTER. A very substantial CW capability could be developed in a building the size of this room.

Senator LUGAR. If people have the expertise, the chemicals, and whatever you need to do that?

Judge WEBSTER. That's right. The chemicals are not all that rare or hard to come by. So, you have problems in handling it.

They have had trouble in Libya with trying to put their plant together. You need certain kinds of containers that resist the corrosive effect of the chemicals that are being used. You need maximum purity to prolong the shelf life of weapons once these chemicals are placed in weapons. But partly that is being dealt with by binary approaches to chemical warfare weapons.

But no one has a corner on the knowledge anymore.

Senator LUGAR. There may be more than two sets of policies that flow from this, but at least two come to mind, one of which is the

set of policies in which we discourage our friends from assisting those who want to do this.

The other set of policies, however, is the appropriate response on our part to violators of what we believe to be an international moral code, or, even more particularly, a situation in which our national interests are jeopardized.

I suppose that the second set of policy responses has not at all been clearly defined.

Judge WEBSTER. That's true.

Senator LUGAR. I know, hypothetically, President Reagan was questioned with regard to this Libyan facility, and at least there was an inference that one response to the existence of such a facility—which, as you have pointed out, may be the largest facility, ultimately, in the world, and potentially a supplier of chemical weapons to many nations, all of which might jeopardize our security—might be to eliminate it. This caused an international debate and a national debate as well.

But it seems to me that there needs to be this intelligence base that you are supplying today so that policymakers can focus on both of these questions.

Senator Pell has raised the question of the sanctions bill as one way to approach our allies and friends, and we indicate that to supply anything is intolerable. They need to get their own act together. If their laws or their political will to act are not adequate, they need to stiffen it up.

The other set of things, however, is that we need to debate, as a nation, the appropriate response to this problem.

Judge WEBSTER. I certainly agree with that.

I think there are some lessons that probably could be studied on the impact of the Libyan bombing, for instance, on other countries engaged in activities inimical to our national interests. I think that perhaps that would be fruitful.

Senator LUGAR. I think that is an important point.

One of the aspects of the strike on Libya previously, in which President Reagan cited Article 51 of the U.N. Charter, which gives us the right to retaliate proportionately and appropriately, is that we had substantial intelligence that terrorist activity was involved.

There will long be a dispute as to whether retaliation is an appropriate way to deal with terrorism. But it appeared to be salutary with regard to many other terrorist sites, at least for a period of time.

I think, without telling tales out of school, your own intelligence findings would support that the U.S. message got through.

Judge WEBSTER. That's right.

Senator LUGAR. Other nations were impressed, and they said so to their own people and to each other.

Judge WEBSTER. That's right.

Senator LUGAR. Thank you very much.

The CHAIRMAN. Thank you.

Senator Helms.

Senator HELMS. Mr. Chairman, thank you very much.

Judge Webster, I had to leave because a North Carolinian was being given a hearing down in the Judiciary Committee to be the drug czar, and I had to present him.

Yesterday, a Japanese wire service carried a report alleging that Mitsubishi and C. Itoh had provided vital equipment to the Libyan chemical weapons complex.

Are you familiar with that report?

Judge WEBSTER. I am not familiar with the specific report. But I am familiar with the allegations.

Senator HELMS. I will make it available to you.

Judge WEBSTER. Thank you.

Senator HELMS. My question is does the CIA believe that Mitsubishi and C. Itoh provided assistance to Libya in its efforts to develop production of poison gas, bombs, or guided missiles?

Judge WEBSTER. Senator Helms, if it is agreeable with you, I would prefer that those questions be asked and answered this afternoon. We have not been mentioning specific countries here in the public session today.

Senator HELMS. That's fair enough. We'll talk about it this afternoon, then.

The same applies to any other question that I may ask you. Don't hesitate to say that.

Judge WEBSTER. Thank you.

Senator HELMS. I have some charts that I asked staff to prepare. The first is "Rabta Warnings." [Indicates chart.]

This chart, Judge Webster, reveals our desperate effort—and I use those words advisedly—going all the way back to April 1980, to persuade the West German Government to block German firms from assisting Qadhafi's poison gas program.

Before I get into any questions, would you want to answer that in closed session, or are you willing to discuss it publicly?

Judge WEBSTER. Well, I'm not sure what the questions will be. I don't want to avoid answering any questions that I can possibly answer in public.

Senator HELMS. Then let me proceed, and what we agreed upon a moment ago is applicable.

Yesterday, I was informed by the State Department that we also have been trying to get the West German Government to block German firms from assisting Iraq's poison gas program since 1983.

Now, in the opinion of the CIA, if the West German Government had been able to restrain German companies in 1983 from assisting the Iraqi chemical weapons program, would this have prevented or impaired Iraq from using chemical weapons on its own citizens?

Judge WEBSTER. I think I am going to have to give you a general answer and will try to be more specific in closed session.

The principle is that none of these countries were able to develop their own capability without foreign assistance. Much of that foreign assistance came from West German companies.

As I recall, at the time, the problem was viewed in a legalistic way; that is, looked at in terms of the inadequacy of the laws or the lack of specificity of the intelligence to support a criminal or civil sanction. That is my recollection.

That attitude has changed substantially, and the German Government is now moving on two fronts—one, to correct their legislative inadequacies, strengthen their laws, and also to bring moral suasion through highlighting this issue on those companies who were involved.

We were not that far along in the process a few years ago, and it was turned aside, as I recall, because of the inadequacy of the legal system and the lack of convertibility of the intelligence into criminal or civil sanction evidence.

Senator HELMS. I'm trying to keep my questions from being hypothetical, but I think I need to ask this one anyway.

If the German Government were unable or unwilling to restrain the German companies from assisting Qadhafi's poison gas program for 9 years, or Iraq for 6 years, do you feel that the United States should continue to rely solely on foreign governments to restrain their corporations from assisting the poison gas programs of terrorist nations?

Judge WEBSTER. If, by your question, you are asking should we legislate more severe sanctions of our own against those who permit other countries to develop this capability, then, speaking only for myself, because I am not making policy in this area, I think that this clearly is one way to improve our ability to slow down this process.

It carries some surmountable problems that I think can be discussed this afternoon with you, and, having passed the laws, they are not necessarily easily enforced, in terms of our ability, our confidence in our ability to identify this activity in ways that would bring the law into play.

I think we have to find a way of using our intelligence, protecting our sources and our methods, so that we continue to collect intelligence, but to form a basis on which those laws an be triggered, if they are passed.

I do not mean to be too obscure in what I am saying. You can develop sanctions, but the proof of the sanctions will depend upon some form of evidence, and some of the intelligence that we have is not readily convertible into evidence.

So, it's not an easy task. But certainly some showing on the part of the United States that it will, in this area, take sanctions, civil or criminal, is consistent with what the United States has done in the effort to control technology transfer of other kinds that are inimical to our national security.

This is a matter for Commerce and State Department. But they have already taken some actions in that with the existing legislation. Perhaps you can tighten the laws to put more teeth in their ability to make it unprofitable to do this.

Senator HELMS. I can appreciate what you are saying and the delicacy with which you are obliged to answer the question.

However, you will recall that I alluded earlier to a report, the title of which is "Report Submitted by the Government of the Federal Republic of Germany to the German Bundestag on 15 February, 1989, Concerning the Possible Involvement of Germans in the Establishment of a Chemical Weapon Facility in Libya."

Mr. Chairman, I ask unanimous consent that this report be made a part of the record, and I am going to ask that the record of this hearing be printed.

The CHAIRMAN. Without objection.

[The information referred to follows:]

REPORT SUBMITTED BY THE GOVERNMENT OF THE FEDERAL REPUBLIC OF GERMANY TO THE GERMAN BUNDESTAG ON FEBRUARY 15, 1989 concerning the possible involvement of Germans in the establishment of a chemical weapon facility in Libya

The Federal Government's report to the Bundestag in accordance with the Bundestag's decision of 18 January 1989

The German Bundestag decided that the Federal Government should submit a written report by 15 February 1989 indicating which and at what time agencies and members of the Federal Government were informed about the possible involvement of Germans in the production of toxic gas in Libya, what steps they took in the light of that knowledge, and what political and legal consequences they intended to draw from the available information.

That report is herewith submitted.

Chapter 1

1. In presenting this report in accordance with the Bundestag's wishes, the Federal Government takes the opportunity to explain once again its basic position on chemical weapons.

   The Federal Republic of Germany is today the only country in the world to have given a binding undertaking not to manufacture, transfer or use chemical weapons. It is likewise the only country to have submitted its chemical industry to regular on-site inspections by an international authority, the WEU Agency for the Control of Armaments, in keeping with the modified Brussels Treaty (WEU Treaty).

   In line with this basic position, the Federal Government exhausts all possibilities to prevent German firms or individuals from participating in or providing assistance for the manufacture of such weapons in other countries and to bring them to account for any such involvement in the past. It is a question of protecting human life and human dignity. For our country in particular this is a deeply moral issue which directly affects the credibility of our democratic State.

   At the Geneva Conference on Disarmament the Federal Government is making vigorous efforts to secure the conclusion of a global and comprehensive ban on the development, manufacture, stockpiling and use of chemical weapons. With regard to verification in particular, it has submitted proposals for improvements which would require a hitherto unknown degree of openness in the chemical industry. In

1989, too, the Federal Government is rendering its own substantial contributions to achieve further progress in Geneva. It is endeavouring above all to secure the consolidation and development of the verification measures elaborated so far.

The Federal Government is playing an active part in efforts to strengthen all instruments which serve to counteract the use and proliferation of chemical weapons even before a convention placing a global ban on chemical weapons has been concluded. This includes reinforcing the 1925 Geneva Protocol, improving the means available to the Secretary-General of the United Nations for investigating alleged use of chemical weapons, as well as the introduction of national and multilateral measures to prevent the proliferation of chemical weapons.

Working from this basis, the Federal Government was from the outset anxious to ensure the success of the conference on chemical weapons (held in Paris from 7 to 11 January 1989) which was initiated by the United States and France. The 149 participating States unanimously called for an early global ban on chemical weapons. The Federal Government is convinced that only such a global ban can remove the danger of the proliferation and use of chemical weapons once and for all. For this reason it has always opposed proposals envisaging only regional solutions.

2. For many years the Federal Government has noted with great concern the efforts of Third World countries, especially in the Near and Middle East, to acquire the means of producing chemical weapons. That is why its trade policy is also governed by its efforts to curb the production of chemical weapons. After receiving information about the possible involvement of German firms in the construction of a war gas facility in Iraq, it introduced further restrictions on top of those already existing under the foreign trade and payments legislation (Annex 1 outlines the present legal situation), viz:

- With effect from 15 May 1984, the export of important chemical products that could serve as precursors for the production of chemical warfare agents was made subject to a licence (under the 52nd Regulation amending the Foreign Trade and Payments Regulation).

- The 57th Regulation of 15 December 1986 included three other products in the Export List, thus placing them under the licence requirement.

- The 56th Regulation amending the Foreign Trade and Payments Regulation and the 53rd Regulation amending the Export List added a Section D to the Export List, thus considerably extending the requirement for the export of chemical facilities, effective 9 August 1984. Under these new provisions, a licence is required for the export of facilities, parts of facilities and other equipment even if they are merely "suited" to the investigation, manufacture, processing or testing of phosphororganic compounds, mustard gas or other highly toxic compounds. Prior to that change in the law, only "equipment specially designed" for the manufacture of poisonous warfare agents was subject to a licence.

- On 15 November 1984, shortly after this change in the law, the authorizing agency, the Federal Office of Economics (BAW), was instructed to submit to the government all applications for licences for the export of items falling under Section D of the Export List. These instructions were issued before intelligence information to the effect that German firms may be helping Libya build a facility for the production of toxic warfare agents had become more substantial. The BAW had already been instructed to present all applications for the export of Section A goods, for instance. On 22 January 1986 the BAW was instructed to submit all other applications concerning Libya.

Thus, as far as the licensing side of the matter was concerned, the Federal Government had taken steps to prevent the export of sensitive items to Libya. It has also taken procedural steps. In May 1985 the Committee of State Secretaries on Security and Intelligence, under the chairmanship of State Secretary Schreckenberger, set up an interministerial working group (headed by the Federal Ministry of Economics) which in June of that year submitted recommendations for improving the methods of preventing illegal transfers of technology. They cover export licensing procedures, export controls, exchange of information, sanctions and investigative work. On 17 December 1985 and 13 May 1986, the Federal Ministry of Economics reported to the Committee of State Secretaries on the steps taken to implement these recommendations, with special reference to the fact that the BAW's staff had meanwhile been increased. At its meeting on 13 May 1986 the Committee of State Secretaries further instructed the Federal Ministry of Economics to prepare a directive for the prevention of illegal transfers of technology. That directive became effective in the summer of 1988, but the procedure it envisaged was already being applied on the basis of the draft directive.

3. In a democratic country which respects the rule of law, mere suspicion is not sufficient grounds for legal steps against individuals or companies who may have been involved in the building of a chemical weapons plant in Libya or in any other Libyan activities in the field of armaments. There has to be conclusive evidence. This also applies to public statements by the Federal Government. A person must not be exposed to the danger of being judged in advance, with all possible personal and economic consequences.

To this extent the chronology of events contained in Chapter 2 brings three things to light:

(1) Only the information which the Federal Intelligence Service (BND) received on 15 July 1988 was substantial enough to justify preliminary investigations of Imhausens's involvement. The Customs Criminological Institute (ZKI) immediately began those investigations after the information had been evaluated by the BND.

Previous information relating to the possible involvement of German firms had been extremely vague and offered no basis for further investigations. Moreover, the reports differed. Some contained rumours about the possible involvement of German firms (e.g. on 27 January 1988), others suggested that, judging by what was known at the time, probably no German firms were involved in the construction of the chemical weapons facility.

On the other hand, leads were followed up in the few cases where this was justified. Every suspicion was explored.

(2) The ZKI was immediately notified about the information which the Federal Government received from the United States in May 1988. After receiving further information in July 1988, the BND immediately made contact with the ZKI and they co-operated closely from then on.

(3) In deciding how to proceed, the ZKI duly weighed up the risks in view of the fact that a public investigation might jeopardize the whole operation. After considering all the aspects, it decided to proceed covertly at first. This was taken into account by the Federal Government in its public statements.

Since 2 August 1988 the ZKI has been looking for specific evidence of unauthorized exports of goods or construction documents. The

Information and statements it has received from public authorities, informants and witnesses, as well as the evaluation of confiscated business records and the results of audits of several companies, have not produced such evidence. Nor was it possible to verify suggestions and rumours - which lacked any specific details (i.e. as to places and dates, persons concerned and methods used) - to the effect that Imhausen had disposed of business records or that consignments had been relabelled at sea.

Up to 13 January 1989, the ZKI and other customs authorities could merely confirm that Imhausen or firms linked with it

- had probably sent engineers to Libya,
- had delivered to Hong Kong a control unit as well as
- know-how, blueprints and plans for the construction of a pharmaceutical factory. These items might have been reconsigned to Libya. However, at that time no licence was required for the export of the control unit, even to Libya. Under the existing regulations, the export of know-how for the construction of the chemical facilities specified in Part I, Section D, is likewise not subject to a licence. And as far as the presence of German engineers and technicians in Libya is concerned, their involvement in the construction of chemical weapons facilities abroad, either in the form of physical work or of technical consultancy, does not constitute a breach of the law.

The ZKI is the central organization for the investigation of alleged violations of the Foreign Trade and Payments Act. It is an agency of the Public Prosecutor. It has the necessary expertise and conducts the investigations on its own authority.

4. In the Federal Government's present assessment the facility at Rabta is not only suited to the manufacture of chemical weapons but was intended for that purpose from the outset. Only very recently has the information available permitted the Federal Government to draw this conclusion.

At no time have the Federal Government or other federal agencies in any way supported Libya's efforts or tolerated, even tacitly, sensitive exports to Libya.

In their reaction the German authorities have operated within the existing legal framework. It has transpired out that that framework is not sufficient to ensure the effective control of sensitive exports

because it does not cover a number of actions that constitute an offence. Preventing the dissemination of sensitive technologies from industrial countries for military purposes in the Third World will remain one of the main international concerns in the years and decades ahead. The legal instruments will therefore have to be modified, both at the national and the international level (see Chapter 4).

As mentioned under 2. above, the Federal Government has also taken procedural steps in order, where legally possible, to improve the flow of information between the agencies responsible for foreign trade and payments control and those concerned with criminal investigations. Experience has shown, however, that the present instruments of control, especially the information available to the agencies, is not sufficient to enable them to keep track of all sensitive exports among some 15 million export transactions a year. Given a denser network of information on possible sensitive consignments by Western firms, it may have been possible to take action at an earlier stage. Consequently, steps are being taken to facilitate the collection and exchange of information and the supervisory authorities are being provided with more staff.

Chapter 2

Chronological account of the information received by Federal authorities indicating possible involvement of Germans and of the measures taken

On 18 January 1989 Federal Minister Schäuble addressed the German Bundestag on behalf of the Federal Government and gave an account of the most important events in the sequence up to 18 January 1989. This chapter retraces the chronological order and details of the information received and measures taken. The account endeavours to be as thorough as possible in view of the wealth of material to be studied, most of which now goes back a considerable length of time.

In giving this account of events the Federal Government is revealing to the public for the first time the content of material officially classified as secret until now. It is aware of the risk that hostile secret services may thus gain insights into the work of the Federal Intelligence Service (BND). Despite having grave reservations on this, the Federal Government has decided to take this exceptional step in order to show the public in Germany and abroad that any doubts about the seriousness of its efforts to stop the spread of chemical weapons are unfounded and that the Federal Government has in no way tolerated illegal German supplies to the Libyan chemical weapons plant.

A: Rabta chemical weapons plant

22 April 1980 — The BND reports that, with the help of unnamed East and West German experts, Libya is developing a plant for the manufacture of chemical warfare agents as well as a system for using them. The BND thinks it is also conceivable that it may be a normal chemical factory. The possibility of the conscious involvement of German companies in the construction of a warfare agents plant was excluded.
Distribution list: BK-Amt (Federal Chancellery), AA (Federal Foreign Office), BMVg (Federal Ministry of Defence), BMI (Federal Ministry of the Interior)

12 February 1981 — The BND reports that Libya intends to import chemical warfare agents which can be used with long-range artillery, helicopters and high-speed aircraft as well as with medium-range missiles. The chemicals needed for the production of chemical warfare agents are reportedly to be purchased in Western Europe (GB, IT, GE). It is thought that, in view of the growing amount of evidence, there can be no doubt about the seriousness of Libyan efforts.
Distribution list: BK-Amt, AA, BMVg, BMWi (Federal Ministry of Economics)

22 July 1981 — The BND reports that Libya remains committed to the production of chemical warfare agents and is currently endeavouring to purchase the basic chemicals needed for this purpose in Italy and Spain.
Distribution list: BK-Amt, AA, BMVg

15 December 1981 — Report by the BND stating that Libya's efforts to achieve its own chemical warfare capability should still be taken seriously. Though one could not speak of an acute chemical threat, the ability to use chemical warfare agents might already exist on a small scale.
Distribution list: BK-Amt, AA, BMVg, BMWi

13 December 1982 — The BND reports that it is highly probable that Libya, along with several other states in the Middle East, possesses chemical warfare agents (presumably supplied by the Warsaw Pact) and that a production facility for nerve gases possibly already exists, though it is thought more likely to be still under construction.
Distribution list: BK-Amt, AA, BMVg

22 July 1983 — The BND reports that Libya has its own plant for the manufacture of mustard gas which attacks the skin. The plant is said to have started production at the end of 1981. Its location is presumed to be near Abu Khammash. Furthermore, the BND warns that it must be assumed that Libya already possesses effective chemical ammunition.
Distribution list: BK-Amt, AA, BMVg.

July 1984 — At a meeting at the AA a member of the BND reports confidentially on an occurrence which took place in 1981/82 and concerns the Abu Khammash chemical plant. The representative of the BND requested that his report should not be taken down in writing due to uncertainty about the intelligence information. He says that a former employee of a German company had gone to Libya for one year and earned a great deal of money. It is presumed that he had built a plant for the production of mustard gas next to the Abu Khammash chemicals complex. It is reported that this complex contains a chloride electrolysis facility built by a German company according to a standard design and operating on the basis of sea-salt and that it could produce one of the precursors needed for mustard gas. A memo was nevertheless made at the AA (presented on 27 July 1984), which led to top-level consultations on 30 July 1984.

In November 1984 the matter is once again taken up at the AA. This leads to a request for more information from the representative of the BND at the beginning of 1985. It fails to produce any new insights (incidentally, at the time, and later in its report of 13 October 1988, the BND confirmed that contrary to earlier indications no chemical warfare agents were being produced in Abu Khammash; see below).

15 November 1984 — The BMWi instructs the Federal Office of Economics (BAW) to submit any applications received for approval of supplies of goods to Libya specified in Section D (chemical plants) of the Export List.

5 December 1984 — The BND reports that a production facility for nerve gases may exist in Libya, though it is thought more likely to be still under construction.
Distribution list: BK-Amt, AA

5 July 1985

The German embassy in Moscow reports on information received from a non-Eastern source indicating that the Imhausen Company in Lahr (proprietor Dr Hippenstiel) has concluded a contract in Hong Kong to provide supplies for a pharmaceutical project. A state-owned German company is said to be involved. The location of the project is unknown.

In view of the special wishes of the company awarding the contract (glass instead of steel pipes, which implies the production of poison gas) and the secrecy surrounding the location, doubts are said to have arisen among the experts involved as to whether it really is a pharmaceutical project for Hong Kong. It is said that Libya had been mentioned as the true country of destination. - In the embassy's opinion it is only conjecture, which it passes on with the request that it be treated with the greatest discretion.

8 July 1985

The AA passes the report on to the BMWi and BND, asking the latter to provide further intelligence if possible.

9 July 1985

The BMWi sends a copy of the embassy report of 5 July 1985 to the BAW for examination. Result: Imhausen has not submitted any applications for an export licence, not even for Hong Kong.

19 July 1985

The BND replies to the AA saying that no information is available concerning the embassy report. It is said that though the Imhausen company did have the chemical expertise required to supply any kind of chemical plant and despite the fact that it is also able to supply plants capable of producing warfare agents, this also applies to a whole number of German companies. The assumption that the alterations to the contract (glass instead of steel pipes) would indicate the possibility of warefare agent production is believed to be false: glass pipes are not thought to be evidence of warfare agent production. TheBK-Amt is also notified of the BND statement on 23 July 1985.

24 October 1985

At the request of State Secretary Schreckenberger the BND reports on Libya to a session of the parliamentary control commission (substance of report as of July 1983 and 5 December 1984).
Distribution list: BK-Amt

15 January 1986 — The BND reports again on Libya (substance as of December 1984).
Distribution list: BK-Amt, BMVg

22 January 1986 — The BMWi instructs the BAW to submit all other applications for authorization to export to Libya.

28. January 1986 — The BND reports that the plant for the manufacture of mustard gas in Libya is said to have been constructed under the management of a member of a German company identified by name. The plant is presumed to be on the site of the Tajura nuclear research centre (this report could not be confirmed later). Precursors which Libya would have to acquire from abroad are thought to have been purchased by bogus Greek, Maltese andBritish firms, though these have not yet been identified.
Distribution list: BK-Amt, AA, BMWi (extracts)

The Chemical Industry Association was then warned to pay particular attention to any sales made via agents from the above-mentioned countries.

7 February 1986 — The BND reports on news from an allied intelligence service according to which 100 tons of sodium fluoride may have been shipped from Zeebrugge to Libya on the Panamanian freighter "Capira" at the beginning of October 1985. This is said to involve a German shipping company identified by name.
Distribution list: BK-Amt, AA, BMWi, ZKI (Customs Criminological Institute)

18 February 1986 — The BND reports that Libya possesses chemical warfare agents (most likely including chemical ammunition), which it may have produced itself. These agents include mustard gas and possibly sarin, too. The location of the factory remains unclear, but it is thought it could be at Tajura inside or near the Libyan nuclear research centre. Libya itself produces the chemicals for mustard gas. It has to purchase from abroad precursors needed for the manufacture of nerve gases. The BND says it cannot establish for sure whether the 100 tons of sodium flueride are related to the manufacture of nerve gases. A likely weapons system for the use of chemical warfare agents is thought to be ammunition supplied by a Spanish company in 1980.
Distribution list: BK-Amt, AA, BMWi, BMVg

17 March 1986 — The BND reports that the recipient of the 100 tons of sodium fluoride is the Libyan Tajura nuclear research centre where, in the opinion of the allied intelligence service, research work is also carried out on chemical warfare agents. Should this be true, the sodium fluoride purchased by the centre is believed to be intended for the manufacture of nerve gas. If not, the purchase could be construed as evidence of Libyan endeavours to engage in uranium enrichment, i.e., in the long run, the development of nuclear weapons.
Distribution list: BK-Amt, AA, BMWi

1 April 1986 — The AA passes on to the BMWi a non-paper it has received on 25 March 1986 from the US Embassy stating, among other things, that a company was thought to be negotiating with Libya on the sale of NBC defence equipment.

27 April 1986 — The BMWi informs the BAW.
In order to avoid a misinterpretation of the legal position the BAW warns the said company by telephone that it may need to obtain authorization. The company states that conclusion of the contract is still uncertain.

28 April 1986 — The AA informs the US orally on the outcome of the review.

21 July 1986 — The BAW once again points out in writing to the said company that it may be obliged to obtain authorization. No application was later submitted.

28 October 1986 — The Federal Office for the Protection of the Constitution (BfV) is requested by an allied intelligence service to supply intelligence on the IBI business operation in Frankfurt in the light of its belief that the London-based IBI company with a subsidiary in Frankfurt had, in addition to other projects, been commissioned to set up a microbiological research centre in Libya. The BfV confirms to the allied intelligence service the existence of the subsidiary in Frankfurt. Since there is no apparent terrorist background, the data is not stored. Other authorities were not informed at the time. A renewed inquiry on 18 August 1987 led to the same treatment of the matter: The BfV informed the BMI on 27 August 1987 given the possibility of any future connection with state terrorism (without reference to chemical weapons).

3 November 1986	The BK-Amt informs the AA, BMF and BMWi of the existence of an unofficial paper handed over at the end of October in which the US Administration expresses its growing concern at the proliferation of chemical weapons in the Middle East. Libya is briefly mentioned in the paper in connection with the possible procurement of protective equipment against chemical weapons.
10 November 1986	The BK-Amt calls a meeting of top-level civil servants to discuss the matter. The BMWi is instructed to make clear to the said firms that as far as the Federal government is concerned it is absolutely out of the question for German companies to participate directly or indirectly in the supply of products, facilities or know-how for the manufacture of chemical weapons.
10 December 1986	The BMWi points out to the Trade Policy Committee of the Chemical Industry Association the official position adopted at the interdepartmental meeting of 10 November 1986. The Chemical Industry Association supports all efforts to prevent the export of sensitive products: It has also informed member companies who did not participate in the committee meeting.
22 June 1987	Daily briefing by the BND. According to information from an allied intelligence service, a warfare agents factory is about to be completed near Rabta with a production capacity estimated at 1 to 3 tons of sarin per day. Distribution list: BK-Amt, AA, BMWi, BMB (Federal Ministry for Intra-German Relations), BMZ (Federal Ministry for Economic Co-operation), BMVg
2 July 1987	The BND reports that production is expected to begin at Rabta in September 1987. No mention is made of the participation of Germany companies. Distribution: BK-Amt, AA, BMVg
3 August 1987	The BND confirms from its own intelligence (SPOT satellite pictures) that the new industrial plant near Rabta is most likely the new warfare agents factory. Distribution list: BK-Amt, AA, BMI, BMVg, BPA (Press and Information Office of the Federal Government)
27 August 1987	Daily briefing by the BND. It is reported that Libya possesses specially trained units for chemical warfare and NBC defence. It is also assumed that Libya has the appropriate vehicles for

using chemical agents in the air and on land.
Distribution list: BK-Amt, AA, BMWi, BMF, BMB, BMZ, BMVg

28 October 1987 — The German embassy in Tripoli reports to the AA in connection with the Chad/Libya conflict on the following statements by German businessmen: "The Libyan military, they say, are aware that Libya is on the defensive. One is now hoping to have a miracle weapon. This probably refers to the use of poison gas. Preparations are being made in the Sebha region with the assistance of Western companies among others." (A separate report is promised in case further intelligence becomes available.)

7 January 1988 — The German embassy in Tripoli reports to the AA that there is thought to be a Libyan military research facility northwest of Gharyan (Rabta), presumably for research work and the manufacture of NBC weapons. Participation of German companies is not mentioned. Information passed on to the BND.

26 January 1988 — The German embassy in Tripoli reports to the AA on claims to the effect that the military research centre for the production of chemical warfare agents is probably already capable of operating. German companies are also involved, though company names had not been mentioned, it is said. Information passed on to the BND on 27 January 1988.

27 January 1988 — The BND comments on the information from the German embassy in Tripoli of 7 January 1988. The BND confirms that its own intelligence and the opinion of allied intelligence services indicate that the object identified near Gharyan is a plant for the production of warfare agents and possibly for ammunition. Previous information indicates that the construction of the plant was mainly carried out with the participation of Japanese, Korean, Polish and GDR citizens but not with companies from the Federal Republic of Germany.
Distribution List: AA

3 February 1988 — The German embassy in Tripoli reports that after questioning representatives of German construction firms investigations have shown that no German companies are involved in the construction of the research facility in Gharyan

(Rabta). The supply of equipment has mainly been organized via Switzerland, with German intermediaries and German companies being thought to be involved.
Passed on to the BND.

1 April/
1 September 1988 A draft of a "Guideline for the Prevention of Illegal Technology Transfer" drawn up on 1 April 1988 becomes effective on 1 September 1988. It is intended to ensure that the authorities responsible are notified without delay of information on the illegal transfer of technology.

15 March 1988 The Customs Criminological Institute (ZKI) finds out that the IBI company in Frankfurt may be involved in the illegal transfer of technology. On 18 March 1988 the ZKI alarms the Frankfurt Customs Investigation Office (ZFA) and requests that the company's activities be investigated. On 22 March the Frankfurt ZFA reports that IBI is doing business with know-how and industrial plants etc. An excerpt from the commercial register is produced as evidence.

Since evidence of the company's involvement in exports to Libya and of business deals in the field of chemicals was not available and the investigators were unable to provide any further information, the official responsible closed the file on 20 March 1988.

19 to
21 March 1988 Conference of the "Australian Initiative". Among the delegations, Japanese firms (not German firms) are named as participants in the Libyan chemical weapons plant.

5 May 1988 The BND reports that it is highly likely that a plant for the manufacture of nerve gas is being or has been built in connection with an almost completed industrial plant near Rabta. Companies from the Federal Republic have not so far made an appearance in the business, it is said.
Distribution list: BK-Amt

18 May 1988 The AA receives a routine level non-paper from the American embassy. It expresses concern over the participation of companies from the Federal Republic of Germany in the

supply of chemical facilities to Libya and the re-equipping of Libyan C-130 aircraft to give them mid-air refuelling capability:

"We understand that several firms from the FRG have provided or facilitated Libya's procurement of equipment - such as pumps and chemical processing reactors - for a probable chemical weapons facility. Among the firms involved in this activity are ... Sihi GmbH and Co., and Imhausen Chemie GmbH.

We also have information that the FRG firm Intec Technical Trade and Logistics Society Limited in Vaterstetten is helping Libya transform C-130 aircraft into refuelling planes which will significantly increase the range of Libyan bombers. Technicians from the FRG are reportedly in Libya working on this project."

The embassy representative is requested to supply more concrete information - if possible within the next few days, but the matter is not specified any further.

25 May 1988 — The US paper is passed on with a note from the AA to the BMF, BMWi and BND: The AA asks whether the companies named in the US document have submitted applications for export authorization. Should this not be the case, the AA insists that a foreign trade and payments inspection be considered for the companies concerned. Federal Minister Genscher is informed of this in a written briefing of 16 January 1989.

7 June 1988 — The BMWi passes on the non-paper to the BAW. The latter reports on 10 June 1988 that the companies named in the non-paper have neither submitted applications for authorization nor obtained such authorization. On 10 June 1988 the AA is informed of this by the BMWi.

8 June 1988 — On the basis of the information referring to the Intec company, the BMF orders a foreign trade and payments inspection and passes on the AA's letter to the ZKI for its assessment (for further developments here see section B).
For the time being the BMF refrains from conducting foreign trade and payments inspections of the other firms mentioned in the non-paper because the paper contains no

concrete information on the kind of goods purported to have been exported nor on their relationship to chemical weapons production.

June 1988 — The BND has repeatedly drawn the attention of the Chemical Industry Association to the problem of the development of poison gas capabilities in the Third World.

15 July 1988 — The BND receives information from an allied intelligence service concerning possible supplies from German companies for the construction of a poison gas production plant in Rabta. The firms named are IBI, Pen Tsao and Imhausen.

2 August 1988 — The ZKI and the BND discuss the involvement of the said companies and conclude for the time being that the ZKI should only undertake preliminary investigations into Imhausen and refrain from ordering a foreign trade and payments investigation by inspectors from the customs authority before further information has been gathered (see chapter 1).

25 August 1988 — The AA informs the US embassy of the measures taken so far. The BND and ZKI exchange provisional findings. Result: It is again decided to refrain from conducting a company inspection for the reasons mentioned under 2 August 1988.

12 September 1988 — The BND has information showing that the warfare agents plant at Rabta is not yet in operation. More intensive intelligence work reveals the possible involvement of individual citizens of the Federal Republic, who are not named.

13 September 1988 — Intelligence briefing in the BK-Amt. As instructed, the BND President reports on the subject of chemical weapons in the Near and Middle East (including Libya).

21 September 1988 — Meeting of the parliamentary control commission. State Secretary Schreckenberger and BND President inform the commission on chemical weapons capabilities in the Near and Middle East on the basis of the reports of 5 May 1988 and 12 September 1988 and speak of the possible involvement of Germans in Libya.

The US embassy hands over to the AA a non-paper of 21 September 1988, according to which Libya has developed a chemical weapons production capability with outside help, including Western European companies, and is about to begin mass production. The US Administration appeals for a stop to any assistance to Libya for the development of its own capability to manufacture and use chemical weapons.
Paper passed on by the AA to: BMVg, BND and BMWi, with the latter transmitting the non-paper to the BAW with a request for the matter to be examined.

30 September 1988

The BND reports that the Libyan plant near Gharyan has been completed for some time. Allied intelligence services point to Japanese suppliers and a Thai company responsible for project implementation. It is said that Germans are to be found among those working on the project, though these are not identified by name. It is reported that even before the project began Imhausen had been delivering unspecified precursors.
Distribution list: BK-Amt, BMWi, AA, BMI, BMVg, BPA

11 October 1988

BND meeting with foreign experts. These mention IBI and three other German firms involved in work at Rabta.

13 October 1988

The BND reports that Libya "is very probably about to achieve its long sought-after objective of having its own chemical warfare capability". It says that the work obviously centres on Rabta. The contraction work, which has been observed since 1986, is reported to have been almost completed, with the planning and supervision being carried out by Swiss, Austrian, British and German firms/persons (not identified by name). The BND reports that the construction work for the chemical facilities ("Pharma 150") was organized under Thai management. The supply of precursors from, among others, a German firm (identified by name) as early as in 1985 could, it is said, not yet be confirmed, even though this suspicion is based on a source judged to be reliable.
Distribution list: BK-Amt, ZKI, AA, BMVg, BMWi

14 October and
18 October 1988

The BND and ZKI again discuss the current state of affairs. No new information is forthcoming. The recruitment of an informant appears to be the only way of acquiring firm evidence.

18 October 1988 The BND announces receipt of a report from an allied intelligence service on 14 October 1988, stating that in August 1988 staff from the Imhausen company were involved in putting the alleged warfare agents plant into operation and "possibly in the repair of damage to the production facilities, too". The BND adds that Imhausen's involvement has also come to its attention via other channels. It reports that the ZKI has been informed and that the US embassy is expected to approach the responsible agencies of the Federal Government in this matter.
Distribution list: BK-Amt, AA, BMWi

19 October 1988 The head of directorate-general 6 of the Federal Chancellery submits the report to the Head of the Federal Chancellery.

20 October 1988 The Federal Chancellor is briefed for the first time on the information gathered by the intelligence services in relation to Libyan efforts to establish a warfare agents factory. He is presented with a summary of the situation by the head of directorate-general 6 of the Federal Chancellery. This summary also mentions possible involvement of the German company Imhausen. The Federal Chancellor is also informed of the intervention of the German authorities responsible, in particular ZKI.

25 October 1988 Intelligence briefing in the BK-Amt. The BND President presents an account of Libya's warfare agents programme and the information he holds on the contribution of German companies.

27 October 1988 The BND comments on previous reports on Rabta and Imhausen's involvement in the alleged warfare agents plant and refers to Imhausen's company offices in Switzerland and Liechtenstein, personnel links between Imhausen and Pen Tsao, and Imhausen's business connections to IBI (Issan Barbouti International) in Frankfurt. Companies are mentioned, but only one firm is identified by name. It is emphasized that the ZKI has already been called in.
Distribution list: BK-Amt, AA, BMI, BPA, BMVg, BMWi

On 14 November 1988 the BMWi proposes that this report is passed on to the BAW. On 18 November 1988 the BND rejects taking this step for the time being, arguing that

more comprehensive information is in the offing (24 November 1988). However, on 2 December 1988 it agrees that the BAW should be informed.

28 October 1988 The BMWI notifies the BMF that, according to BAW information, Imhausen has not submitted any applications for an export licence since 1982. The BMF passes on this information to the ZKI.

2 November 1988 The BND makes contact with an informant who, under certain conditions, is prepared to supply business documents of the companies allegedly involved in Rabta.

8/9 November 1988 In order to clarify the business connections between the Imhausen company and foreign firms which are potential suppliers to the chemicals project the ZKI contacts the Customs Investigation Service of the United Kingdom and asks whether investigations could be instituted against the Pen Tsao company in Hong Kong.

10 November 1988 The German embassy in Washington cables a report on concerns in the US over Libya's chemical weapons capability and announces a special briefing of the German delegation on the occasion of the Federal Chancellor's visit to Washington on 15 November 1988.
Distribution list: AA, BK-Amt, BMVg

11 November 1988 **The AA presents a written briefing to Federal Minister Genscher for his talks in Washington proposing that he make the following points:**

- **US evidence provided in October 1988 has been looked into, but so far nothing has been found on Germans or German firms violating the Foreign Trade and Payments Act.**

- **The Federal Government will investigate every indication of illegal activities and offers close cooperation.**

- **There is no verified information on the activity of Germans in the Libyan chemical weapons plant. Even if this were the case, the Federal Government would have no effective lever to prevent the mere participation of Germans in such projects.**

Federal Minister Genscher is given this briefing for his talks, together with an account of the state of affairs (as of October 1988) on 14 November 1988 on the journey to London. The account notes that the responsible authorities are attempting to clarify the matter.

11 November 1988

At the AA a letter from Secretary of State Shultz is received for the attention of Federal Minister Genscher and passed on to Genscher on 12 November 1988. Contents of the letter:

- Concern in the US Administration over the growing chemical weapons proliferation, latest example is Libya.

- He (Shultz) praises the Federal Government's efforts to prevent German firms from exporting chemical weapons material while recognizing the legal obstacles to stronger measures.

- He announces the desire to discuss this problem during the Federal Chancellor's visit and offers to provide an "intelligence briefing".

11 November 1988

The informant hands over documents to the BND so that it can check the authenticitiy of the material he intends to supply.

15 November 1988

The German Embassy in Tripoli reports on the summoning of the EC Heads of Mission to the Deputy Foreign Minister on 14 November 1988 and on the letter sent by the Libyan Foreign Minister to the UN Secretary-General in which, among other things, Libya emphasizes its willingness to participate in all international efforts designed to achieve a ban on the production, stockpiling and use of chemical weapons.

15 November 1988

At the meeting with Secretary of State Shultz in Washington the Federal Chancellor and Foreign Minister Genscher are given evidence by CIA-Director Webster of the involvement of German companies, including Imhausen and IBI, in the alleged chemical weapons plant in Rabta. It is also claimed that an Imhausen employee has frequently rendered technical assistance at the technology centre during the last two years. The Federal Chancellor promises an immediate and speedy investigation and announces that, if necessary, the Federal Republic's legal provisions will be tightened.

16/17 November 1988 **The German embassy in Washington reports on the Federal Chancellor's meeting with Secretary of State Shultz.**

Distribution List: BK-Amt, BMVg, BMWi, with the latter passing on the report to the BMF, BMI, BMJ (Federal Ministry of Justice), BAW and ZKI on 21 November 1988.

17/18 November 1988

The Federal Chancellor notifies the Federal Cabinet and the Federal Security Council (BSR) of the information received from the US Administration. The Federal Chancellor's statement is recorded in the minutes of the Federal Security Council of 18 November 1988 as follows:

> "Pictures and documents on the production of chemical weapons in Libya have been presented by the US Government. This information caused him great consternation. A huge arsenal of chemical weapons was being manufactured in production centres in the desert. A considerable part of the equipment was thought to be of German origin and German experts were said to be involved. A problem in this involvement was that civil products manufactured by the chemical industry were sometimes hardly distinguishable from substances destined for chemical weapons. First of all, we had to gain a clear picture of the information available in the US. Then we would have to consider what could be done. If our laws proved to be inadequate, we would have to create new ones."

At the meeting of the BSR Federal Minister Genscher calls for export controls to be tightened. He also says criminal proceedings should be instituted to prosecute Germans involved in the affair. Genscher urges that, irrespective of the outcome of the proceedings, precautionary steps be taken in economic and criminal law.

18 November 1988 **The BND reports to the BK-Amt on the particularly important role being played in the Rabta project by Salzgitter AG, which supplied a plan of the plant, and Imhausen Chemie, which has supplied plant components and chemicals. It is also mentioned that an authorized representative of Imhausen, who is not identified by name, has frequently been present at the construction site. The BND says that Imhausen has**

supplied plant components to Pen Tsao, a firm in Hong Kong, and that a Belgian firm has been commissioned with shipment. It is further reported that the cargo was relabelled on sea and delivered to "Pharma 150" in Libya. An Imhausen subsidiary, the electronic data processing company GfA in Bochum, is reported to have supplied the complete plant control system.

Deliveries are said to have been made by, among others, two major companies identified by name, although it is thought doubtful whether they were aware of the final use of their products.

The BND is skeptical about the benefits of conducting a search of the Imhausen offices and firms connected with Imhausen, since it says it has received a report to the effect that members of the Imhausen company removed documents to a neighbouring country in spring 1988 in response to a report published in the New York Times on 24 December 1987 on the production of chemical weapons in Libya.

The claim made by Head of State Gadhafi that the purpose of the plant in Rabta was the manufacture of medicines cannot be taken seriously, says the BND.

Distribution list: BK-Amt (directorate-general 6 informs the units responsible in the BK-Amt, AA, BMWi, BMVg, BMI).

18 November 1988

The BMWi requests that the BAW check whether in addition to Imhausen and IBI four other companies have submitted export applications. The BAW reports on 7 December 1988 that of the six companies only one - neither Imhausen nor IBI - has submitted applications and received three licences: The BAW sees no connection with chemical plants. One company - again neither Imhausen nor IBI - was once given authorization in 1982 but made no use of this after cancelling the translation in the same year.

21 November 1988

The German embassy in Washington reports that the US Department of Defence has confirmed intelligence on the chemical weapons plant and that Head of State Gadhafi reportedly wishes to invite ambassadors and journalists to an opening ceremony at the plant. The AA passes on the cable

to BMWi and BMF on 22 November 1988 requesting their comments.

22 November 1988 — The BMWi contacts the BMF at division level by telephone saying they are to receive the copy of the cable report from Washington embassy on the substance of the Federal Chancellor's meeting with Secretary of State Shultz. It also says that the BND has been asked to inform the ZKI on further details of the matter on 23 November 1988. The BMWi requests that criminal proceedings be instituted against the companies named in the cable report.

22 November 1988 — Intelligence briefing in the Federal Chancellery deals with the subject.

23 November 1988 — The BMF receives the cable report of the Washington embassy of 16/17 November 1988. After an assessment of the report it is concluded that further investigations can only be carried out in the cases of Imhausen, IBI and Pen Tsao. On the same day the BMF informs the ZKI by telephone of the cable and asks them to find out whether criminal proceedings can be initiated on the basis of its contents or whether foreign trade and payments inspections should be ordered. The ZKI is of the opinion that the information which has so far become available does not

constitute initial grounds for suspicion under Section 34 of the Foreign Trade and Payments Act (AWG). It requests that no decision be made pending the BND briefing scheduled for the same day.

23 November 1988 — At the briefing between BND and ZKI the BND says that an informant has finally been found who, under certain conditions, is prepared to supply concrete information on any involvement of German companies in the Rabta project. With the help of this information it is intended to establish the missing facts still needed for an investigation to be launched by the public prosecutor. The ZKI informs the BMF of this course of action. The BMF tells the BMWi that the institution of for-

mal criminal proceedings (searches, confiscations) cannot go ahead at the moment.

24 November 1988 The BND reports to the Chancellor in response to the evidence presented by the US Administration: Rabta, it says, is intended for the production of chemical warfare agents and the corresponding ammunition, but the plant has not yet started production. Until the summer of 1988 the BND had no knowledge of the participation of German companies neither from its own nor from foreign intelligence sources, it says. Since August 1988 there have been, it reports, indications of involvement by the Imhausen group and of the supply of unspecified precursors by Imhausen. The BND mentions, among other things, that plans have been supplied by Salzgitter AG staff (see chapter 4) and plant components provided by Imhausen. It is explained that deliveries were nominally made to the Pen Tsao company in Hong Kong, which is linked with the Imhausen company. The cargo is reported to have been relabelled on sea and delivered to the project in Rabta. The BND reports that GfA, a company belonging to the Imhausen group, has installed the plant control system. It for the technology project have, it says, been supplied by a German company identified by name. The BND repeats that it has evidence of the removal of documents by Imhausen.

The BND emphasizes that in order to protect its sources it is not possible for the information to be used in court though there is no doubt as to its reliability.
Distribution list: BK-Amt, AA, BMF, BMWi, BMI, BMVg

25 November 1988 State Secretary Schreckenberger submits a report to the Federal Chancellor on the present state of affairs and the action taken. In addition to the briefing in cabinet and in the BSR the BMWi also notifies Federal Minister Bangemann concerning the information from the United States. The BMWi telexes the BMF and ZKI requesting them to institute immediately all appropriate proceedings, particularly with regard to the alleged removal of documents. The BMI receives a copy.

26 November 1988 The BMF informs the ZKI by telephone of the BND's statement and instructs the ZKI to clarify the exact circumstances of the alleged transfer of documents with the BND. The BND cannot give information on the telephone.

In addition, the BMF asks the ZKI to establish whether there is sufficient evidence to warrant suspicion of a criminal act under Section 34 AWG. The BMF says that if this were the case the ZKI should immediately ask the state prosecutor responsible to issue a search and confiscation warrant.

29/30 November 1988

In Cologne the ZKI and BND discuss all the available information. Result: They conclude that no violations of the AWG have so far been ascertained and that investigations must continue, with covert measures appearing most appropriate.

The BMF orders the ZKI by telex to proceed with ts investigations and call in the responsible public prosecutor as soon as sufficient information is available to initiate criminal proceedings.

30 November 1988

The BMWi informs the BMF by telex that "Federal Minister Bangemann urgently requests the institution of investigations".

1 December 1988

The BMF informs the BK-Amt, AA and BMWi by telex that the ZKI has been ordered to make preliminary investigations and that the public prosecutor responsible for taking further proceedings will be called in if there is sufficient knowledge of sufficient evidence of illegal exports.

2 December 1988

With reference to the meeting of the BSR the BMF informs Federal Minister Stoltenberg that the ZKI has been instructed to conduct preliminary investigations and that the public prosecutor responsible will be called in as soon as sufficient information is available for criminal proceedings.

5 December 1988

On the initiative of the AA it is agreed with the Government of the United States that a delegation of American experts should visit the Federal Republic of Germany. In preparation for this meeting the US ambassador hands over at the AA a paper concerning the technology centre and the "Pharma 150" chemical factory in Rabta. The paper contains references to the production of mustard gas and sarin as well as to the participation of the Imhausen and IBI companies.

The paper is passed on to the BMWi and BMF.

6 December 1988

The ZKI attempts in vain to get hold of information from an informant. The informant fails to appear.

9 December 1988 — The German embassy in Washington reports in detail on the attitude of the United States. In addition, it announces the secondment of secret service experts for 15 December 1988. The Americans request on 14 December that this visit be postponed to 22 December 1988.
Distribution list: AA, BK-Amt, BMWi, BND, embassies in Tripoli and Paris

13 December 1988 — The BMI asks the BfV for intelligence in connection with discussions in the Federal Security Council on chemical plants in Libya suited to the production of chemical weapons and on the alleged involvement of German companies. BFV reply on 15 December 1988: no information.

14 December 1988 — ZKI investigators meet with the informant and receive a file containing documents. The file includes:

- specifications for the Pharma 150 project
- accounts sent by foreign firms to IBI
- miscellaneous correspondence with German and foreign companies concerning Pharma 150
- construction drawings

In one letter there is a reference to business connections between the Imhausen company and IBI regarding the Pharma 150 project.

However, there is no evidence that violations were committed against the Foreign Trade and Payments Act. In particular, there is no evidence of goods supplies by German firms.

The originals of the construction drawings contained in the papers and copies of the other documents are given to the BND for analysis. The preliminary findings will be presented orally on 3 January and 9 January 1989.

15 December 1988 — The US embassy hands over to the AA and the BMWi a non-paper with an appeal phrased in general terms to counter Libyan efforts to acquire a chemical weapons capability. It does not name any firms.

The BMWi requests the BMF by telex to inform it on the state of the preliminary investigations.

19 December 1988 — The ZKI informs the BMF by telephone that there are no new insights into the illegal exports by firms already

named and that the information available is not sufficient to warrant the institution of formal investigations as yet. The BMF informs the BMWi on the same day by telephone.

20 December 1988 After several attempts to get in touch with the informant, officials of the ZKI and the BND visit him. Officials of the ZKI confiscate four boxes of documents in the process. The documents comprise:

- specifications for the fitting of an electrical and sanitary installation and heat insulation,
- drawings which the ZKI hands over to the BND (the list is in the possession of the ZKI),
- business letters of the Imhausen, IBI and GfA companies.

The documents concern the Pharma 150 project. Initial examination of the documents does not reveal any information about the geographical location of this project. The movements of goods by IBI already established (i.e. modules for external walls, construction materials, windows) are not subject to export approval. There are no indications in the documents that the deal involves goods which are subject to export approval. The informant points out that there are more documents. It is, however, not possible to find out where these documents are being kept. The work with the informant proves to be difficult.

Further procedure. It is decided to await the information to be provided by US experts on 22 December 1988 in order to find, if necessary, concrete evidence of violations of foreign trade legislation.

At an interdepartmental meeting at the BMWi the BMF and ZKI report that the preliminary investigations by the ZKI have not yet produced any concrete evidence of illegal exports and that it had not proved possible so far to initiate formal criminal proceedings (searches etc.) The departments concerned are agreed that the briefing promised by the US should be awaited before further action is taken.

The US embassy asks the AA orally whether the German side can confirm information available to the US to the effect that Head of State Gadhafi has invited a group of military attachés

to inspect the Rabta plant. The German embassy in Tripoli does not confirm this; the US embassy is informed accordingly.

20 December 1988 — Session of the Federal Cabinet. The Federal Chancellor emphasizes that the use of German products to manufacture dangerous weapons abroad must be prevented without delay and, if necessary, with drastic legislation. For this purpose he orders the formation of a working-group which is to be headed by the BMWI and to submit results by February 1989.

22 December 1988 — Meeting with US delegation at the Federal Foreign Office; participants: AA, BMWI, BMF, ZKI, BND. The US experts present photographic material on the "Pharma 150" chemical plant to their German colleagues and report on an assembly accident in August 1988. They are convinced that the plant is a chemical weapons production plant. The US experts are unable to provide concrete evidence of the participation of German firms.

They express merely the convicton that the German Imhausen company is responsible for the overall planning.

The US delegation was requested to hand over the written analysis of the plant's production aims as well as the other material available to the United States. Furthermore, the German side requested the US authorities to grant permission for the responsible intelligence analyst to give evidence as a witness to a German public prosecutor or a German judge as and when the need arises. The US delegation agreed to look into the possibility of the provision of documents and witnesses. The US delegation indicated that an answer could be expected by 10 January 1989.

23 December 1988 — The German Embassy in Tripoli reports on the summoning of EC Heads of Mission to Jalloud, who has requested the European governments to take responsibility and work to prevent a catastrophe (possible bombardment). Furthermore, it is reported that Jalloud has announced that in several

months' time anyone who was interested could inspect the plant in Rabta.

29 December 1988

The German embassy in Tripoli reports on a meeting between the ambassador and the deputy foreign minister requested by the AA. The latter, it is said, confirms Libyan participation in the Paris Conference and the statement contained in the letter to the UN Secretary-General that Libya has absolutely no intention of producing any chemical weapons whatsoever. The Libyan Government requests that the matter be pursued energetically with the United States.

29 December 1988

The BMF instructs the Freiburg Regional Finance Office (OFD) to carry out a foreign trade and payments inspection of the Imhausen company immediately and to find out in the first place whether the company exported goods to Libya from 1984 onwards and whether it had violated foreign trade and payments regulations in the process. The instruction was issued because further covert inquiries no longer promised any chance of success in view of impending press publications.

2 January 1989

Start of the foreign trade and payments inspection of the Imhausen company by the Freiburg OFD. The public prosecutor's office in Offenburg is informed. It does not believe at this point that the prerequisites for a formal investigation are met and therefore only starts to officially monitor events.

Due to the nationwide connections between the Imhausen company and other companies known to the authorities as a result of preliminary investigations, the ZKI informs the public prosecutor's offices responsible for these specific companies in Mannheim (special public prosecutor's office for economic crime), Frankfurt and Bochum. The ZKI informs the Bochum public prosecutor by telephone on 6 January 1989 on the state of the investigations and the evidence obtained adding that the ZKI is trying to initiate proceedings through the public prosecutor's office in Mannheim (special prosecutor

for economic crime). The public prosecutor's office in Bochum agrees with this course of action.

The BMF instructs the Hamburg OFD to carry out a foreign trade and payments inspection of the Pen Tsao company in order to ascertain whether by or via this company illegal supplies of goods for Libya were made. The investigation did not lead to any such conclusion. The public prosecutor's office in Hamburg was informed of these findings by the Hamburg ZFA by telephone on 13 January 1989. The public prosecutor (StA) saw no reason to take action against the firm despite the accusations contained in press publications.

3 January 1989 — As instructed, the German ambassador in Tripoli makes a démarche to Head of State Gadhafi with the aim of obtaining Libyan agreement to an international inspection of the Rabta plant. Head of State Gadhafi does not make any concrete promise; he says an answer will be forthcoming.

3 January 1989 — The BMF, BND and ZKI discuss the difficulties which have arisen in contacts with the informant. As a result, the BMF instructs the ZKI to get hold of those documents of the IBI company to which the informant was to provide access, if possible without instituting criminal proceedings.

The ZKI informs the Mannheim public prosecutor by telephone. The latter begins to officially monitor events (ref. 600 AR 1/89).

3 January 1989 — Intelligence briefing in BK-Amt. The President of the BND presents an analysis of the documents on the Rabta plant.

4 January 1989 — The ZKI confiscates 12 boxes in Frankfurt which contain business correspondence of the IBI firm, including communications with Imhausen. An evaluation of the documents does not produce any indication of the illegal export of goods.

4 January 1989 — The Deputy Libyan Foreign Minister answers the démarche made on 3 January: He says that Libya agrees without reservation to all international mechanisms to which all countries would be subject to the same degree. Libya rejects discriminating measures.

4 January 1989 — The BND summarizes the information available to date on the plant in Rabta. It says that with the exception of trial runs the plant is not yet operating; operations could begin in April 1989 at the earliest. In the BND's opinion the type of construction and the protective measures indicate that the plant is designed for the manufacture of warfare agents.
Distribution list: BK-Amt, AA, BMI, BMF, BMWi, BMVg

5 January 1989 — The BND sends a summary report to Federal Minister Genscher, Federal Minister Schäuble and State Secretary Schreckenberger.

5 January 1989 — The BND points out that the plant in Rabta still requires technical equipment before it can start operations indicating that it has only been possible to examine and test certain components. The plant control system is not yet available and is to be provided by the GfA, which belongs to the Imhausen group.
As concerns the availability of evidence which could be used in court proceedings, the BND announces the preparation of a list.
Distribution list: BK-Amt, AA, BMI, BMF, BMWi

5 January 1989 — The first stage of the foreign trade and payments inspection of the Imhausen company is completed. The examination did not provide any evidence that the company had carried out illegal exports for the Libya project. The examination is extended to include other export deals and capital and payment transactions.

5 January 1989 — Acting on the basis of information provided by the intelligence services indicating that the transport of exports to Libya was arranged by the Belgian haulage contractor Gedopt in Antwerp, the ZKI requested the Belgian customs investigation service to conduct investigations at the offices of the haulage contractor.
The investigations in Belgium, which took place on 10 and 11 January 1989 and which involved two investigating officials of the ZKI, failed initially because Gedopt was arrested by the police in Antwerp on 11 January, presumably on charges of tax evasion and the falsification of documents. All business documents were confiscated. The request by the ZKI to be involved in the assessment of the case was rejected by the

Belgian authorities. On 19 and 20 January two investigating officials from the ZKI were again in Belgium after the police had allowed them to examine the documents. Their assessment has not yet been completed.

6 January 1989 — The ZKI follows up information provided by the BND on possible supplies of ventilation equipment to Rabta by a German firm. A foreign trade and payments investigation is ordered. This established that deliveries were made to Libya but there was no link to the "Pharma 150" chemicals factory. A final assessment undertaken by the BAW on whether or not an export licence was required for the supplies has not yet been made.

7 January 1989 — Federal Minister Genscher meets Secretary of State Shultz in Paris. Shultz confirms that he has complete confidence in the fact that the Federal Chancellor, Federal Minister Genscher and the Federal Government are taking the matter very seriously. It is agreed that a meeting of experts will take place in the following week in Washington.

9 January 1989 — The President of the BND informs the Federal Chancellor on Libya.

11 January 1989 — The BMF asks the AA by telex to request the authorities responsible in Switzerland and Hong Kong to enable officials of the ZKI to conduct investigations on the premises of IMHICO in Zurich and the Pen Tsao company in Hong Kong or to involve German officials in investigations by the foreign authorities. The AA reports on 13 January 1989 that Switzerland is prepared to receive officials of the ZKI for preliminary talks but has pointed out that investigations can only be conducted on the basis of a formal request for judicial assistance. Hong Kong replies to the AA that before investigations could be conducted at the Pen Tso firm a request for judicial assistance would have to be filed and the willingness of the firm to assist in inquiries obtained. The Offenburg StA has in the meantime filed a request for judicial assistance addressed to Switzerland.

12 January 1989

The BND reports on the papers received from the ZKI in the week before Christmas. It says that according to the documents the IBI Engineering AG company of Frankfurt arranged the financial transactions and the purchase of small parts and that the Imhausen company and its subsidiaries have played a key role in the planning of all 30 buildings in the "Pharma 150" project and that in the course of construction work several firms belonging to the Imhausen group (i.e. Pan Tsao, Hong Kong) had been involved.
Distribution list: BK, BM Schäuble, BM Genscher, StS Schreckenberger, MD Teltschik

12 January 1989

In Washington a German delegation inquires about the American findings. The US side reports on the storage of precursors in Rabta and links the supply of these products to the Imhausen company. Moreover, it is reported that IBI, Belgian haulage contractors and suppliers from GDR, Great Britain, France, Hungary, Romania, Italy and Japan are involved. Apart from mentioning the names of individual Imhausen staff members the US side also names other German firms.
Both sides agree that Rabta is suited to the production of chemical weapons, that however production has not yet commenced and that Libya is neither capable of repairing damage to the plant nor of completing it without onside assistance. Documents which could have provided useful evidence for further investigations were not presented.

12 January 1989

From another person the ZKI confiscates IBI company documents and documents from another firm. The documents are in 12 boxes. Apart from office remnants from the IBI company (i.e. shoes, rubbish left from a move to another location, unused office material) the boxes contained the following:

- office material,
- brochures from various firms on sanitary, ventilation, air-conditioning, electric and cable installations;
  nearly one-third of the confiscated material consists of such leaflets.
- Construction drawings, overviews and blueprints, which make up for a quarter of the confiscates material,

- accounting material of the IBI company (expenses and documents relating to the payroll),
- several files containig construction plans of the Libya technology centre (excluding the Pharma project),
- telex correspondence of every kind; a telex from the haulage contractor of Gedopt/Antwerp concerning the supply of thiodiglycol from Hong Kong to Libya.

An analysis of these documents does not reveal any indication of illegal exports of goods. When interviewed by the ZKI officials the informant claims that the SIG Salzgitter Industriebau company is in charge of the planning for the whole "Pharma 150" plant in Rabta. The record of the statements made by the witness is sent to the Mannheim public prosecutor's office on 13 January 1989 (2.41 p.m.). The Mannheim public prosecutor does not initiate investigations because, in the meantime, (in the morning of 13 January 1989) the Offenburg public prosecutor has formally instituted investigation proceedings. The records of the statements by the witness are sent to the Offenburg public prosecutor on 13 January 1989.

13 January 1989 — The public prosecutor's office on Offenburg institutes formal investigative proceedings on suspicion of a breach of the Foreign Trade and Payments Act against members of the Imhausen company etc. The question of possible participation of other companies in the events now under investigation is included from the outset. The ZKI conducts the investigations on behalf of the public prosecutor.

17 January 1989 — The State Secretary informs the parliamentary control commission.

18 January 1989 — Conclusion of the second stage of the foreign trade and payments examination conducted at the Imhausen company. The investigators ascertain that the company has exported to Hong Kong the know-how required for the construction of a multi-purpose chemical factory for the production of fine chemicals as well as pharmaceutical substances. The export of this know-how (production documents, technology, technical data and processes) was not subject to authorization. The basis for the transfer of know-how was a contract concluded with the Pen Tsao-Materia-Medica-Center of Hong Kong in November 1984. The agreed price was DM 32,4 million and has been largely paid by the buyer. The investigation did not reveal any evidence that in the period covered (1 January 1984 to 31 December 1988)

- chemical plants or parts thereof were exported,
- that comparable know-how was exported to a firm other than the Pen Tsao company,
- the know-how supplied to Hong Kong was passed on to Libya.

The results of the investigations also applies to the two companies based in Lahr, the Kunststoffwerk GmbH and Galvanoform Gesellschaft für Galvano Plastik mbH, which have ties with the Imhausen company. The business documents of both these firms were presented to the investigators voluntarily.

The report on the investigation and a dossier are sent to the public prosecutor in Offenburg on 23 January 1989.

18 January 1989 Intelligence briefing in the BK-Amt. The President of the BND informs on Libya, the chemical weapons complex and the mid-air refuelling capability.

19 January 1989 The Federal Criminal Police Office (BKA) is informed by Interpol in Brussels that the Antwerp public prosecutor is conducting investigations against the Belgian haulage contractor Gedopt regarding supplies of chemical products from the Federal Republic of Germany via Antwerp to Libya on suspicion of falsifying documents and misappropriation. The Belgian side requests the identification of a total of 22 telephone subscribers. The responsible criminal investigation services of the Länder and the ZKI have been informed of the first results so that they can carry out further inquiries.

19 January 1989 The AA confirms to the ZKI (also to the BMF, BMWi, BK-Amt) "considerable disturbances in foreign relations caused by illegal exports for a Libyan chemical weapons plant" (Section 34 AWG).

19/25 January 1989 The BND reports on the results of a first examination of the material confiscated by the ZKI on 14 December, 20 December 1989 and 4 January 1989. The documents, it says, reveal business ties between the Imhausen company and IBI and a series of other domestic and foreign firms.

The BND notes that the freight papers show that Tripoli is the destination but the freight containers seldom bear labels indicating their contents.

Salzgitter Industriebau is mentioned in reports in connection with plans including those for the water supply system of Rabta.

It is said that construction plans for the metal processing factory reveal that it is a production plant for the manufacture of, amongst other things, tubular components (presumably shells and bombs). The construction plans for "Pharma 150" show security facilities which are superfluous in the case of the production of pharmaceuticals; the plant was also unusually large for two pharmaceutical products. In the plans for "Pharma 150" the names of the firms involved are not entered at the appropriate line in the documents. The joint planning of chemical plants and the metal processing plant as well as security facilities not usually found in a pharmaceutical factory (airtight windows and doors, gas-tight walls between the production and the control unit, burn-off unit, and particularly corrosion-proof lining on pipes, escape routes) make it possible to draw the conclusion that "Pharma 150" is a chemical weapons plant.

B: Intec supplies

18 May 1988 — At routine level the AA receives a non-paper from the American embassy. The paper expresses amongst other things concern about the involvement of the Intec company of Vaterstetten in the conversion of Libyan C-130 aircraft for mid-air refuelling (see Section A).

25 May 1988 — The AA transmits the non-paper to the BMWi, the BMF and the BND (see Section A).

7 June 1988 — The BMWi passes the non-paper on to the BAW (see Section A).

8 June 1988 — The BMF has a foreign trade and payments investigation carried out at the Intec company by the Munich OFD (see Section A).

20 June to
4 August 1988

The Munich OFD conducts a foreign trade and payments investigation at the Intec company covering the period from April 1986 to 30 June 1988 and prepares a final report.

According to the findings of the investigation the Intec company has

- exported spare parts and components for aircraft to Libya and another country

- undertaken in a contract dated 6 October 1985 concluded with a firm registered in Liechtenstein to supply tools, appliances, machines and materials mainly for aircraft construction;

- purchased components for two mobile refuelling facilities from various suppliers in the Federal Republic of Germany as well as from a French firm so as to be able to fulfill the contract of 6 October 1985;

- supplied these products to the Khalig project in Tripoli, Agricultural Department in Libya, in the period from May 1986 to November 1987.

The Intec company did not apply for authorization to export these goods. For this reason, the BAW was requested by the Munich OFD to comment on the obligation to obtain an export licence.

In the view of the Munich OFD the foreign trade and payments investigation did not provide any evidence that the two mobile refuelling facilities acquired by the Intec company represented equipment required for mid-air refuelling.

25 August 1988

The report on the investigation prepared by the Munich OFD is received by the BMF.

8 September 1988

The BMF sends the report on the investigation to the AA and the BMWi.

The Munich OFD is instructed by the BMF to report in due time on the BAW statement on the obligation to obtain an export licence.

17 October 1988	The AA informs a representative of the US embassy orally on the results of the foreign trade and payments investigation.
5 December 1988	The US customs attaché sends a request for support to the BMF.
6 December 1988	The BAW, responding to an inquiry by the Munich OFD, states that seven of the hydromotors supplied to Libya by the Intec company are subject to export approval. The other goods were either not subject to export approval or it was not yet possible to judge whether they were subject to approval. The BAW statement is received by the Munich OFD on 9 December 1988.
14 December 1988	The BMF has the Munich OFD report by telephone on the state of affairs regarding the requirement of export authorization. The US request for support received on 5 December is sent by the BMF to the AA with the request for information as to whether and how the US paper of 13 May 1988 has been answered.
13 January 1989	The AA replies to the BMF that the US embassy has been informed orally that the facilities supplied by the Intec company were only suitable for ground-based refuelling; it was not possible to re-equip them for mid-air refuelling purposes. The AA had not yet been informed of the BAW statement to the Munich OFD
17 January 1989	The public prosecutor at the Munich Regional Court I institutes criminal proceedings against members of the Intec firm on the grounds of suspicion of a violation of Section 34 AWG. The Munich OFD provides the BAW with further drawings of the products exported by the Intec company. The BND reports on mid-air refuelling capability to the BK-Amt, AA, BMWi, BMF, BMVg.
18 January 1989	The Munich OFD provides the BMF with a telex report on the state of affairs regarding export approval requirements.
19 January 1989	The BMF sends the Customs Investigation Office and the Munich OFD copies of the US request for support of 5 December 1988 including the answer of the AA of 13 January 1989 with the request to

have the investigations speeded up by the ZFA there in co-ordination with the Munich StA I.

19 January 1989 — The BND reports on the information available to it on staff and material involvement of Germans in the mid-air refuelling project. Distribution list: BK-Amt, AA, BMI, BMF, BMWi, BMVg.

Due to this information it is currently being examined whether one or several members of the Federal Armed Forces were involved in the mid-air refuelling project in Libya during or after their period of service. Apart from the Intec company the investigation is to examine the involvement of another German firm. No further information can be given at the moment without endangering the course and the success of the investigation.

23 January 1989 — The BMF is requested by the Munich StA I to comment as to whether the possible violations of the Foreign Trade and Payments Act are to be regarded as a criminal offence under Section 34 AWG.

24 January 1989 — The BMF presents to the AA and the BMWi the request by the Munich I StA as well as the telex report by the Munich OFD of 18 January 1989 asking them to give an answer as the authorities responsible for the matter.

27 January 1989 — The AA issues a statement by telex in reply to the request by the public prosecutor Munich I (also sent to the BMF, BMWi, BMJ, BK-Amt): The AA confirms the existence of considerable disturbances in foreign relations in the sense of Section 34, subsection 1, item 3 AWG.

Chapter 3

Investigations by public prosecutors concerning possible participation by Germans in the construction of a plant in Libya for the production of warfare agents

1. By telex of 23 January 1989 the Federal Ministry of Justice requested the judicial authorities of all Länder

   - to inform it whether investigations or preliminary investigations are being conducted in their respective administrative areas against specific companies or individuals in connection with the suspected participation of Germans in the construction of a chemical weapons factory in Libya, and

- if applicable, to submit a report on the state of the investigations.

2. Results of this survey

(a) Judicial authorities of Land Baden-Württemberg

Preliminary proceedings have been instituted by the public prosecutor attached to Offenburg Regional Court against members of Imhausen GmbH in Lahr, inter alia, on account of suspected violation of the Foreign Trade and payments Act (ref. 10 Js 34/89).

In this connection the Baden-Württemberg Ministry for Justice, Federal and European Affairs transmitted by letters of 24 and 27 January 1989 three reports from the Offenburg Public Prosecutor dated 23, 24 and 26 January 1989.

Essence of the reports:

The preliminary proceedings were officially instituted on 13 January 1989, after observations (preliminary investigations) had been carried out by the same public prosecutor from 2 January 1989 onwards (ref. 10 AR 3/89).

The preliminary proceedings are being conducted by the Customs Criminological Institute in Cologne on behalf of the Offenburg Public Prosecutor.

The preliminary proceedings are directed against members of Imhausen GmbH in Lahr. The proceedings also concern charges against members of other companies in the Federal Republic of Germany who might be involved in any punishable conduct of Imhausen through implication established by criminal law.

Persuant to a search warrant issued by Offenburg Local Court on 21 January 1989 (ref. 1 Gs 64/89), a search was carried out on 25 January 1989 of the business premises of three companies (Imhausen Chemie GmbH in Lahr, Gesellschaft für Automation mbH in Bochum, Pen-Tsao Ltd. in Hamburg) and of the property of various accused or third persons, including the flat of a person strongly suspected of having worked in a supervisory capacity at the construction site in Rabta, Libya.

During searches, which proceeded smoothly, about 60 crates of documents that might be of relevance to proceedings were confiscated in the Lahr area (especially at Imhausen's head office), and roughly 15 such crates elsewhere in the Federal Republic of Germany.

Sifting through the confiscated documents, which are being kept at the Customs Criminological Institute in Cologne, will take a long time, probably weeks or even months.

In addition, some witnesses have already been questioned in connection with the proceedings.

The Federal Intelligence Service will make available to the Offenburg Public Prosecutor a study which can be used for the purpose of court proceedings and which shows that, according to available information, the chemical plant at Rabta in Libya is intended for the production of poison gas.

The investigations, which the Mannheim Public Prosecutor took charge of on 10 February 1989, are being vigorously continued.

(b) Judicial authorities of Land Hesse

Preliminary proceedings have been instituted by the public prosecutor attached to Frankfurt Regional Court against members of IBI (Ishan Barbouti International), Frankfurt/Main, on account of the suspicion of having aided and abetted a violation of the Foreign Trade and Payments Act (ref. 93 Js 3228.1/89).

In this connection the Hesse Ministry of Justice reported by letter of 24 January 1989 that the preliminary proceedings had been handed over on that date to the Offenburg Public Prosecutor.

(c) Judicial authorities of Land North-Rhine/Westphalia

By letter of 27 January 1989 the North-Rhine/Westphalian Ministry of Justice reported that two items of information received by the Bochum Public Prosecutor on 3 and 20 January 1989 concerning alleged participation by Gesellschaft für Automation (GfA), a Bochum-based subsidiary of Imhausen, and by another company in Essen had been forwarded on those respective dates to the Offenburg Public Prosecutor, who had also taken charge of the investigations in this respect. As can be seen from the Offenburg Public Prosecutor's report of 26 January 1989, the company in Bochum was also searched on 25 January 1989.

(d) Judicial authorities of Land Rhineland-Palatinate

By letter of 25 January 1989 the Ministry of Justice reported on preliminary investigations, which had by 24 January 1989 not revealed sufficient signs of an offence having been committed.

(e) The judicial authorities of the other Länder reported that no investigations or preliminary investigations are being conducted.

Chapter 4

Political and legal consequences

I. Foreign policy implications

The Government of the Federal Republic of Germany regards it as an urgent foreign policy task to prevent, in collaboration with its partners and friends, the production of chemical weapons by Libya.

In a letter sent by Foreign Minister Genscher to US Secretary of State Baker on 26 January 1989, the Federal Government suggested that suitable measures be jointly deliberated and that early consultations between the two foreign ministries be arranged. The Federal Government is additionally engaged in a close dialogue with the US Administration. The visits by Federal Ministers Schäuble and Haussmann to Washington in early February afforded an opportunity to continue the exchange of views and to explain our policy to leading members of Congress.

Within the scope of European Political Co-operation (EPC), the Federal Government has demanded urgent treatment of these questions in the relevant bodies. Foreign Minister Genscher proposed in a letter sent on 26 January 1989 to the President of the EC Council of Ministers, Foreign Minister Francisco Fernandez Ordónez of Spain, that the Twelve launch a joint initiative on the prevention of chemical weapons proliferation within the framework of the Australian Group, whose informal meetings are now attended by the 19 main countries of the Western world (the twelve EC countries, Norway, Switzerland, United States, Canada, Japan, Australia and New Zealand). In the letter Foreign Minister Genscher also suggested that the Twelve launch an initiative vis-à-vis the Arab League.

At the German-Spanish intergovernmental consultations in Sevilla on 5 and 6 February 1989, Foreign Minister Ordónez assured Foreign Minister Genscher of the support of the Spanish EC Presidency.

The Australian Group has been endeavouring since 1984 to prevent by means of export controls the exportation of chemical precursors suitable for producing chemical weapons to countries that may develop their own chemical weapons arsenal. Until now eight substances suited to the manufacture of chemical weapons have been subjected to binding export controls in all countries belonging to the Group. The Federal Government is preparing proposals for substantially widening this list.

As regards the exportation of chemical facilities suitable for the production of chemical weapons as well as parts of such facilities and equipment for them, the Federal Government will vigorously pursue its proposal for subjecting the foregoing to export controls, which proposal was made to the Australian Group in April 1988 and was discussed there. The Federal Republic of Germany has since 1984 been the only country in the world to apply export controls to such chemical facilities.

The aim of the Federal Government's efforts within EPC is to reach as soon as possible a co-ordinated position among the Twelve which embraces farreaching export controls for both precursors and facilities in order to accelerate the corresponding deliberations within the Australian Group.

Furthermore, in his letter of 31 January 1989 to the President of the EC Commission, M. Jacques Delors, Foreign Minister Genscher urged the Commission to submit once more, if possible to the General Affairs Council on 20 February, its draft regulation of 1984 concerning export restrictions on chemical precursors that may be used for the manufacture of chemical warfare agents, the draft being updated if necessary. This draft regulation had originally been supported by the Federal Republic of Germany, but unfortunately it was not adopted. In his reply dated 3 February, Commission President Delors stated that the Commission shared the Federal Government's concern and intended to pursue the matter actively on the basis of its 1984 draft so that the Council could again deal with the issue at its meeting on 20 February.

In talks with Chancellor Kohl and Federal Ministers Genscher, Haussmann and Schäuble, the Governments of the United States and Israel expressed satisfaction at the bills and organizational measures envisaged by the Federal Government for improving export controls. This also applies to the intended criminal provisons prohibiting the development, manufacture, transfer and possession of chemical weapons. The President of the World Jewish Congress, Mr. Edgar Bronfman, expressed a similar opinion to Foreign Minister Genscher.

II. Changes in legislation

On February 15, 1989, the Government of the Federal Republic of Germany adopted a detailed concept for tightening its legislation on foreign trade and payments. To this end, it passed the amemdments it had proposed for the Foreign Trade and Payments Act, the Atomic Energy Act and the Foreign Trade and Payments Regulations and took positive cognizance of preliminary drafts designed to modify the War Weapons Control Act and the Fiscal Administration Act. In doing so, it has taken the legal action needed according to present knowledge because of the proliferation, either accomplished or attempted in the course of recent months, of dangerous technologies in the atomic, biological and chemical weapons field in which the investigations by the public prosecution have not been concluded yet. Moreover, it prepares the controls under the Foreign Trade and Payments Act required for the next few years that will see an increasing danger of

proliferation, i.e. an important policy problem to be faced internationally in the 1990s. It is doing so aware of the fact that no absolutely perfect control regime can be installed in a country recording some 15 million individual export transactions every year, but which must do everything it can to institutionalize effective restrictions and controls without abandoning the basic philosophy of its Foreign Trade and Payments Act.

Certain measures to be proposed by the Federal Government will go beyond what is internationally customary. Their effectiveness will essentially depend, not least, on similar steps being taken by other major exporting nations and on close coordination as between foreign trade and payments control regimes (cf. I above).

The envisaged legal amendments are set out below: first, improving the supervisory and investigating authorities' information base; second, additional export bans; third, extended provisions on punishments and fines associated - fourth - with substantial additions to the supervisory and investigating authorities' personnel and equipment.

The Government drafts to amend the Foreign Trade and Payments Act and the Foreign Trade and Payments Act and the Foreign Trade and Payments Regulations are presented to the Bundestag in response to its wish for information prior to their being formally submitted to the legislative bodies of this country (cf. Annex 2).

The draft amendments of the Atomic Energy Act, the War Weapons Control Act and the Fiscal Administration Act are still in the process of being coordinated; this applies in particular to coordination with West Germany's Western Allied Powers in respect of the Berlin clause. For this reason, the preliminary drafts have not been published. After adoption by the Federal Cabinet, the drafts will be combined into a single Act together with the amended Foreign Trade and Payments Act.

1. Improving the supervisory and investigating authorities' information base
   A review of the current situation suggests the need to improve the supervisory and investigating authorities' information base and to reinforce the exchange of important information.

   a) Evaluation of export
      As distinct from several EC Member States (e.g. France, the UK) and other countries (USA and Austria), the Federal Republic of Germany has no comprehensive export registration system. The mandatory export declarations by types of goods, country of destination and exporter have thus been used as enforcement documents by the customs authorities only for export clearance and by the Federal Statistical Office for its own purposes. It has been planned to make available those export declarations also to the Customs Criminological

Institute and the Federal Office of Economics for evaluation. This will allow a substantial improvement in the information base needed for applying selective export controls.

At present, the Federal Statistical Office is not permitted for legal reasons and because of the confidential nature of statistical data to pass export figures on to the export supervisory and control authorities (Federal Office of Economics, customs services, Customs Criminological Institute). The aim therefore is to instal on a step-by-step basis a data acquisition system at the level of the customs administration whilst focusing controls, initially, on exports to specific countries and on exports of specific items, e.g. nuclear energy, chemical, biological plant and equipment and launcher technology. This will allow decentralized random checks of export declarations upon export clearance and a more thorough and quicker evaluation with limited personnel resources. Such a step-by-step procedure also permits taking account of the regulations in force in the single European market that will become reality in less than 4 years time. A comprehensive information system will in any event have to be prepared at Community level to monitor imports and exports at the EC's external borders.

b) Licences under the Atomic Energy Act

The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety will enlist the licences needed under the Atomic Energy Act and will duly inform the Federal Departments to which the Federal Office of Economics and the Customs Criminological Institute are answerable; the legal basis necessary for passing on such information will be created.

c) New reporting requirement

One of the proposed major amendments concerns the new requirement to report legal transactions or acts concerning the acquisition of nuclear energy, biological or chemical items, including the material and technologies needed for their production. In the nuclear field, this requirement applies to all the materials, plant and equipment mentioned on the Nuclear Energy List (Annex AL to the Foreign Trade and Payments Regulations, Part I, Section B). In the chemical products sector, the new reporting requirement affects all preproducts, plant and typical components thereof suited to the production of chemical and biological warfare agents. In the biological warfare agents sector, the specific biological substances as well as plant, including equipment, meeting the criteria of the group III hazard category classification by the Federal Health Office of August 7, 1981,

are covered by the reporting requirement; this allows the commencement of export controls by the Federal Office of Economics and the Customs Criminological Institute before export transactions are actually carried out and the examination of export licences on a wider comparative base. The authority in charge of evaluating the reports will be the Federal Office of Economics.

The drafts amending §§ 26a and sub-§§ 4 and 5 of § 33 of the Foreign Trade and Payments Act are attached as Annex 2. The list-type definitions of individual plant and components suited to the production of biological and chemical warfare agents are still in need of further technical clarification. It is intended to set out those definitions in Part I of the Export List (Annex AL to the Foreign Trade and Payments Regulations).

d) Extended data exchange

The exchange of data between the Federal Office of Economics, the Customs Criminological Institute and the Federal Criminological Office is to be strengthened by means of modern data processing. Within the framework of its supervisory function, the Customs Criminological Institute will be connected on-line with all data bases of the Federal Office of Economics and be given access to that Office's individual evaluations based on its own data. Conversely, the Customs Criminological Office will transmit to the Federal Office of Economics the results of its evaluation of export declarations and inform it of suspected cases of violation of the Foreign Trade and Payments Regulations.

Within the framework of its responsibilities, the Federal Criminal Office is to be more strongly involved as well through the transmission by the Federal Office of Economics of summary information on specific suspicions and of more detailed data upon request.

The new legal basis necessary for such an extended exchange of data is set out in Annex 2 (§ 45 of the Foreign Trade and Payments Act).

e) Reinforced exchange of information with the customs investigation authorities

The customs investigation authorities will exchange information on illegal exports of sensitive items with the intelligence services and the police agencies. The Customs Criminological Institute and the Federal Criminal Office will exchange liaison officers in the interest of closer

coordination of joint investigation interests and of an improved exchange of data.

These measures will allow a noticeable improvement of the supervision of foreign trade and investigations into infringements of foreign trade legislation. The acquisition of data and its potential exchange leads to a wider registration of foreign trade transactions, lawful for the most part and economically necessary as well. In the absence of data protection, this may result in the storage and use of data ascertained also for integer businessmen in investigations into suspected cases of unlawful exports. With a view to forestalling this possibility as well as the overall accusation that the German export trade engages in criminal activities, it will be necessary to reach conclusions with regard to the need to ensure the confidential nature of data. This process has not yet been concluded.

2. Additional export bans

In the Federal Republic of Germany, export bans may be imposed in a larger number of cases than in other countries. The USA and other countries, for instance, do not control the export of chemical plant suited to the production of proscribed chemical agents (USA: general licence item), quite apart from highly specialized components of such plant, such as special electronic control systems.

It is necessary to develop the legal basis of the German export control regime further independently of the situation prevailing in other countries, in order to do justice to the expecially high level of technological achievement of German civil goods exports, including dual-use items, on the one hand and to the goal of the Federal Republic of Germany to promote peace worldwide. The existing licencing requirement is to be extended to include other goods and countries of destination.

a) Licencing requirement for additional goods

The Australian initiative of 19 Western industrial countries to prevent exports of chemical products suited to the production of chemical warfare agents has led to the adoption of two control lists. According to that initiative, state approval is required for 8 (December 1988:9) listed particularly hazardous substances. The Federal Republic of Germany has responded by including those substances into Section C of Part I of the Export List (8 items so far).

For the further 32 (December 1988: 35) listed particularly hazardous substances, voluntary self-control by the industry has been envisaged. However, the US government has reserved the right to licence 8 out of

the listed 35 items, though vis-a-vis certain proscribed countries of destination only. These 8 substances are also to be subjected to export licencing in the Federal Republic of Germany so that approval will be needed for 17 substances in all henceforth. The Federal Government will work toward the acceptance also by other Western industrial nations of export controls in respect of those 8 additional substances.

The other substances will, as before, be subject to voluntary control by the chemical industry itself in the Federal Republic of Germany. This means that upon the suspected intention of using the export in non-civil applications, the transaction is either called off by the firm or the opinion of the export licencing authority in charge is obtained.

Like exports of plant suited to producing chemical warfare agents (Section D of Part I of Annex AL to the Export List), exports of plant suited to producing biological warfare agents will be subject to export licencing as well.

However, because of the difficult definition problems involved, the list must be prepared with special care and is still in need of clarification.

Licencing requirement for further countries of destination

Exports of blueprints and related documents and the transmission of knowhow, not generally accessible, concerning the production of sensitive items and of sensitive technologies have been restricted to Eastern bloc (List C) countries so far. The limited application of those restrictions is no longer justifiable. In future, it will, for instance, be forbidden for German nationals to transfer knowledge on the production of chemical weapons or technical data on such weapons to customers in the Third World.

The exchange of technologies concerning plant suited to the production of chemical or biological warfare agents is to be included into the extended licencing requirement for the first time.

Transit operations by companies domiciled in the Federal Republic of Germany that involve sensitive items not freely circulated in West Germany have so far been under a licencing requirement only when the country of destination concerned was the Republic of South Africa (or Namibia) or an Eastern bloc nation. This limitation on the application of the restrictions on transit operations is to be lifted.

The OECD countries are to be exempted from the new regulations. They are countries working toward largely identical foreign trade and security policy objectives not posing control problems, especially because close cooperation among them already exists within the framwork of

international export controls. The exchange of technologies as between the OECD countries is - moreover - especially intensive; controlling them would mean unjustifiably high outlays and time-consuming licencing would noticeably disturb the exchange of technologies between parent companies in the Federal Republic of Germany and their subsidiaries in other OECD states.

The new draft regulations are included in Annex 2.

3. Extended provisions on punishments and fines

The effectiveness of controls regarding proliferation of hazardous technologies must be complemented by the deterrent of sanctions against the infringement of regulations.

a) Punishing the production of biological and chemical warfare agent production

A special problem disturbing international security and foreign relations is posed by the direct and indirect involvement by scientists, technicians and other nationals of industrial countries in the development and production of biological and chemical weapons in the Third World. In view of the international efforts to outlaw chemical weapons and of the existing proscription of biological weapons, an amendment of the War Weapons Control Act is proposed so as to allow for the first time a comprehensive ban, including punishments, on activities by German nationals involved in the production of chemical and biological weapons. This applies to such activities both at home and abroad. Whilst the War Weapons Control Act has hitherto only referred to activities, largely domestic in character, and provided for licencing possibilities in this context, there will no longer be any such licencing possibilities for the production of biological and chemical warfare agents.

The ban refers to the "promotion" of such acts as would be banned under the new provisions. The term "promote" was deliberately chosen to reflect a very wide range of proscribed activities. This ban forms the legal basis for punishing any participation by German nationals in the

core activities of foreign nationals abroad that are not punishable under those countries' law. As distinct from the punishment provisions of the Foreign Trade and Payments Act (cf. below), there need not be any acute danger to peaceful relations among nations and to the foreign relations of the Federal Republic of Germany; promoting the production of chemical weapons abroad through West German deliveries of relevant production plant will be punishable also in the absence of any such acute dangers. Exceptions shall be granted for the destruction of biological and chemical weapons by the responsible authorities and for measures to protect from or stave off the effects of such weapons. Similarly, exemptions shall be allowed in respect of the use of chemical agents in the performance of official duties by members of civilian employees of West Germany's Allied Forces as well as for NATO-integrated German servicemen and officials.

Because of the special risks involved in the proliferation of biological and chemical weapons, any violation of the ban shall attract a term of imprisonment of between 2 and 15 years. By virtue of the Act establishing the Federal Criminal Office, the task of investigating into such offences will fall on the Federal Criminal Office, whose capacity in terms of personnel and equipment must be expanded accordingly. Investigation into such cases will not be easy because offences will largely be committed in foreign countries whose governments will not be willing to cooperate.

The coverage of Land Berlin by these provisions will depend on the outcome of the consultations with West Germany's three Allied Powers.

b) Stricter provisions on punishments under § 34 of the Foreign Trade and Payments Act; increase in the maximum allowable fines for violating the provisions of the Foreign Trade and Payments Act
On December 20, 1988, the Federal Cabinet decided to alter the provisions on punishments of § 34 of the Foreign Trade and Payments Act; in future, it shall suffice that the national security and/or the foreign relations of the Federal Republic of Germany or the peaceful relations among nations are potentially endangered; proof to that effect shall no longer be required. The associated term of imprisonment is to be extended from 3 to 5 years. The draft was already discussed by the Deutsche Bundesrat.

In order to deal effectively with regulatory offences in foreign trade and

payments, the maximum allowable fines under para. 5 of § 33 of the Foreign Trade and Payments Act is to be doubled from DM 500,000.- to DM 1 million. This corresponds to the maximum allowable fine under the Restraints on Competition Act and should be regarded as complementary to the extended punishment provisions of § 34 of the Foreign Trade and Payments Act. Siphoning off net profits is already possible. Whether and, if so, to what extent it will be possible to siphon off the proceeds or the gross profits to be expected from the transaction as well is currently being examined by the Federal Minister of Justice as part of a general reform of the regulations on forfeiture and of the Criminal Code.

4. Extending the capacity of licencing, supervisory and investigating authorities

The authorities licencing, supervising and investigating into foreign trade transactions, especially the Federal Office of Economics and the Customs Criminological Office as well as the organizational units in charge in the Federal Departments, are already subject to considerable strain. New and especially important tasks have evolved in recent years in preventing proscribed exports in the field of chemical and biological warfare agents as well as plant and equipment for their production and in the field of launcher technology (missiles to deliver atomic, biological and chemical weapons). This has resulted in unjustifiably long licencing procedures and legitimate complaints by German exporters about such lengthy procedures. The additional measures now envisaged will mean further heavy burdens on supervisory and investigating authorities.

For this reason, the Federal Government attaches high priority to an adequate and speedy expansion of the staff and equipment of the supervisory and investment authorities. The budgetary preparations at the base of such expansions still need to be studied in detail. It is expected that a considerable numer of additional personnel will be necessary in key areas of foreign trade and payments supervision and investigation. Moreover, there will be a substantial requirement for material outlays.

Talks with industry

On January 30, 1989, the Federal Associations of German Industry were informed of the measures the Federal Government intends to take in order to tighten foreign trade and payments controls at a hearing that took place at the Federal Ministry of Economics. They showed understanding for the envisaged tightening of foreign trade and payments controls and advocated the earliest possible internationalization of additional restrictions, especially in the field of the "Australian Initiative". They

pressed the point for the aforementioned reasons that the extended licencing requirement for the transfer of technology not be widened to include the OECD countries. They made reference to the excessive length of existing licencing procedures and expressly welcomed for this reason the proposed modernization of the technical equipment and the expansion of the personnel of the Federal Office of Economics.

In their letter (attached as Annex 3), the Federal Association call upon their member firms to apply the greatest prudence and care in the supervision of dubious exports. After adopting the proposed measures, the Federal Government will continue its talks with industry in order to ensure maximum interaction between government and industry. This includes consideration pertaining to early mutual information in the case of exports of sensitive technologies, before specific suspicions of illegal exports have actually arisen.

Industry will also have to say whether and, if so, to what extent on-the-spot verification will be allowed at least on a temporary basis when major sub-supplies of chemical and biological production plant or blueprints and technical documents thereof pose the danger that the end-user of such plant converts the equipment - contrary to its original purpose - for use for the production of warfare agents, e.g. sub-supplies and technical material for specific pharmaceuticals and plant protectives production equipment. For instance, one engineering company has committed itself to allowing verification within the framework of a project for the production of plant protectives. In respect of exports subject to licencing, there is a possibility to impose pertinent conditions to complement the instrument of the final destination certificate.

Public authorities and German industry share the interest in avoiding that the behaviour of merely a handful of firms exposes exports to distrust - exports that are vital for the country's prosperity and for the fate of many thousands of companies and millions of jobs. One of the main international tasks over the next few years and decades will be the prevention of the proliferation of the industrial countries' technologies to the Third World for military purposes.

Annex 1

I. Export controls of sensitive items of military and strategic relevance based on the Foreign Trade and Payments Act

According to § 1 of the Foreign Trade and Payments Act, Article 1 of the (EEC) Council Regulation No. 2603/69 and the principle enshrined in Article XI of the General Agreement on Tariffs and Trade, exports of goods are basically free.

Exceptions from this principle are permitted for reasons of national external security. The countries cooperating within the COCOM and under the Non-Proliferation Treaty have made use of this facility. The internationally agreed restrictions on exports are contained in the Export List mentioning, among others, the chemicals that have been classified as most hazardous ones as well as the knowhow needed for their production. Further items have been added by the Federal Government. For instance, licencing has been necessary since August 6, 1984, in response to information about the dangers involved in the production of chemical weapons including exports of plant and component suited to research, production, processing and testing of organic phosphieric compounds, Lost and other highly toxic substances; the OECD countries have been excepted from this licencing requirement. The lists are continuously updated to take account of technological progress.

Insofar as exports of war weapons are concerned, additional controls must be applied under the War Weapons Contral Act.

Besides goods, the Export List mentions technologies and technical processes unrelated to specific goods, such as for the coating of non-electronic devices or for the design of specific computer-integrated production systems. Exports of associated documents must also be licenced. However, this licencing requirement has hitherto been restricted to transfers to non-residents domiciled in Eastern bloc countries. Transit operations require licencing under certain circumstances as well.

II. Official responsibilities

Licences and supervision

The licencing authority is the Federal Office of Economics. The customs authori-

ties are responsible for monitoring compliance with the regulation on merchandise exports.

1. Cross-border movements of merchandise controls

a) Exports

According to sub-§ 1 of § 1 of the Customs Law, the customs authorities are responsible for monitoring compliance with the regulations on cross-border trade. Such monitoring is intended to ensure in the first place that import duties and taxes are collected and that the bans and restrictions existing in crossborder merchandise trade are duly complied with. In this context, the customs authorities also monitor compliance with export restrictions based on the Foreign Trade and Payments Act and the Foreign Trade and Payments Regulations under sub-§ 4 of § 46 of the Foreign Trade and Payments Act. The local authorities in charge are principal customs houses including their agencies such as customs offices, border control stations and customs commissariat.

The monitoring procedures are regulated by §§ 9 ff and 17 ff of the Foreign Trade and Payments Regulations under which exporters must report to their customs offices every cross-border shipment by submitting export declarations. The exporter's outbound customs office is the principal customs house in whose district the exporter is domiciled or headquartered. On the basis of the exports list, the outbound office checks the legality of the export transaction and makes a corresponding mark on the export declaration. Insofar as necessary, it requires the presentation of an export licence. The export licence accompanies the consignment to the customs office of exit where it is surrendered. Upon request, the consignment must be submitted to the customs office of exit, which monitors the movement of the merchandise across the border. In this context, the customs office of exit checks whether the respective consignment was properly cleared by the outbound office and whether the export documents presented refer to the merchandise submitted for customs clearance. The office of exit clears the consignment - after inspection, if necessary - for export purposes, confirms the exportation on the export declaration and transmits the declaration to the Federal Statistical Office. When checking the legality of export transactions, the customs authorities are free to require the submission of further data

and evidence. This includes in particular the presentation of a certificate by the Federal Office of Economics to the effect that the exportation is unobjectable (so-called negative certification). In cases of doubt, experts of the Federal Office of Economics and/or other authorities are asked to give their opinions.

b) Personnel employed

The principal customs houses employ 1,930 officers to accomplish their tasks.

2. Supervising foreign trade and payments

a) Procedures

The customs offices monitor compliance with export restrictions complementary to merchandise controls on the basis of subsequent checks at company level. Expecially trained customs officers (so-called external auditors) study on the basis of books and vouchers and related corporate evidence whether those concerned have met their obligations under the Foreign Trade and Payments Regulations. Those affected are under the legal obligation to submit, upon request, records, books, corporate documents and other material (sub-§ 1 of § 44 of the Foreign Trade and Payments Act). This Act does not contain details regarding the rights and duties of parties affected and the investigation procedure. Such details have been regulated - in close coordination with the German Fiscal Code - in a special inspection instruction. The agencies in charge of making such investigations are the external auditors of the 16 Regional Finance Offices.

Some 1,500 checks are made annually under the Foreign Trade and Payments Act. About two-thirds concern exports and one third imports. In most cases capital movements and payment transactions are also examined. Such checks are not made on a regular, but on a case-by-case basis, particularly when checks are made to monitor compliance with export restrictions. In some 50 % of examinations, the suggestion of such action originates in the Federal Office of Economics and the customs criminological office while in some 40 % of cases it is the customs authorities participating in export clearance, examinations and investigation. The remaining 10 % is accounted for by information

available to the units of the Regional Finance Offices responsible for foreign trade and payments.
The initiation of an examination does not presuppose suspicion that a violation has been committed.

b) Personnel employed

105 investigators are presently employed for such examinations.

III. Infringements and prosecution

1. Prosecution of criminal offenses

a) Legal basis

Notwithstanding the responsibilities of the police (agencies of the Laender and - provided that the provisions of the Act establishing the Federal Criminal Office have been satisfied - and of the Federal Criminal Office), the public prosecutor is authorized under § 42 of the Foreign Trade and Payments Act to instruct the principal customs houses and customs investigation agencies to make investigations pursuant to § 34 of the Foreign Trade and Payments Act. In addition, the principal customs houses and customs investigation agencies as well as their officers are required, also in the absence of any such instruction by the public prosecutor, to investigate into and prosecute offences under § 34 of the Foreign Trade and Payments Act where such offences concern the crossborder movement of goods. To this end, the customs authorities have the same rights as the criminal investigation police. In an auxiliary capacity, they serve the public prosecutor and are thus authorized to take measures such as confiscation, investigation and others pursuant to the provisions of the criminal code applicable to civil servants answerable to the public prosecution.

The customs investigation agencies are required to make both preliminary and formal investigations.

Preliminary investigations begin at a stage prior to any suspicion (i.e. when indication have been received on who, what, where, whereby, how, when and why in connection with an offence) but only where there is a need for clarification of a specific matter and where the possibility of a

criminal offence cannot be entirely precluded. Within the framework of preliminary investigations, public registers are inspected, documents including those of other authorities evaluated and information obtained from persons and agencies with a view to establishing suspicions of the probability of an offence. The moment such suspicion exists, the customs investigation agencies initiate formal investigation proceedings.

In the case of criminal investigations, the customs investigation agencies are answerable to the public prosecution.

b) Responsible authority

Where violations of export restrictions have been identified, the criminal law investigations are conducted by the customs investigation agencies, i.e. the Customs Criminological Office in Cologne and the 16 customs investigation agencies with 19 branches.

The customs investigation agencies are subordinate to the 16 Regional Finance Offices and specialize in preventing violations of the Foreign Trade and Payments Regulations. Their staff consists of about 1,000 trained criminal investigation officers including 150 mainly or exclusively engaging in the prosecution of infringements of export restrictions.

The Customs Criminological Institute is the information and communication centre of the central customs investigation service. Its tasks have been regulated in sub-§§ 4 and 5 of § 12 of the Law on Fiscal Administration and include

- gathering information and material for purposes of the central investigation service and other customs agencies, both national and international,
- helping in the investigations conducted by the customs investigation agencies,
- making investigations independently in supraregional cases.

The Customs Criminological Office has the same powers as the customs investigation agencies and their officers, i.e. the rights and

duties of police officers pursuant to the provisions of the Criminal Offences (Proceedings) Act. To that extent, the officers of the Customs Criminological Office serve the public prosecution in auxiliary capacity.

Witin the framework of the so-called market observation service, the Customs Criminological Office monitors imports and exports into and from the customs territory as well as the firms mainly involved in order to obtain preliminary indications of any infringement of foreign trade and payments provisions. The Customs Criminological Institute furnishes information obtained in the course of its market observation activities to the responsible customs investigation agencies or other customs authorities which take the individual restraining or preventive action as required. In order to deal with especially comprehensive cases, the Customs Criminological Office or the customs investigation agencies set up special investigating teams.

2. Administrative fines

The administrative authority responsible for the prosecution and punishment of regulatory offences pursuant to § 30 of the Foreign Trade and Payments Act and § 70 of the Foreign Trade and Payments Regulations are the Regional Finance Offices (customs and excise division) as Federal Authorities pursuant to sub-§ 3 of § 43 of the Foreign Trade and Payments Act. These Regional Finance offices have the right to instruct the customs principle houses or the customs investigation agencies to investigate into regulatory offences pursuant to sub-§ 1 of § 42 of the Foreign Trade and Payments Act. These customs authorities and their officers are, however, required to make investigations, also without any such instruction by a Regional Finance Office, of such regulatory offences when they refer to the cross-border movement of goods (sub-§ 2 of § 42 of the Foreign Trade and Payments Act). The provisions set out in III. 1.a) above apply mutatis mutandis; in this case the legal basis for proceedings is the Regulatory Offences Act instead of the Criminal Offences (Prosecution) Act.

3. International legal and administrative assistance

In many cases it is possible to identify infringements of export restrictions only by investigations conducted abroad. The data provided by the respective customs agencies represent the basis for monitoring compliance with the foreign trade and payments provisions. It is not always possible,

nationally, to verify the correctness of such data. In the absence of any close international cooperation among the customs administrations, it is often not possible to obtain reliable data on the origin, route of transportation, properties or final destination of the goods exported. The support by foreign customs administrations is also needed for identifying and investigating falsified trade and other documents.

A large number of bilateral and multilateral international law arrangements as well as Directives of the European Communities regulate international cooperation by the customs administration of the Federal Republic of Germany with foreign customs administrations in cases of suspected infringements of export restrictions. At Community level, the Agreement dated September 7, 1967, the so-called Naples Agreement, and the Regulation (EEC) No. 1461/81 of May 19, 1981, are applicable.

Bilateral arrangements have been concluded on mutual support between customs administrations with the USA, Finland, Iceland, Yugoslavia, Canada, Norway, Sweden and Spain.

These arrangements and/or regulations provide that, upon request, the customs administrations of the contracting states and/or the EC Member States make investigations to prosecute infringements that have occurred in those countries. The investigating officers of the requesting customs administration are allowed in this context to participate in the investigations and the establishment of evidence. In the absence of this highly varied set of administrative assistance instruments, effective investigations and prosecution of violations of export regulations would not be feasible.

Annex 2

Legal texts left untranslated

See Chapter 2

Annex 3

Federal Association of German Industry (BDI)
Association of German Chambers of Industry and Commerce (DIHT)
Association of German Wholesalers and Exporters (BGA)
Cologne/Bonn, January 28, 1989

Joint Declaration by the Federal Assoication of German Industry (BDI), the Association of German Chambers of Industry and Commerce (DIHT) and the Association of German Wholesalers and Exporters (BGA) on export controls of chemical warfare agents.

The three Federal Associations including their member associations unconditionally support the politically binding basic decision of the Federal Republic of Germany which is thus far the only country to renounce the production, proliferation and use of chemical weapons, having done so in 1954. German industry also supports the export controls based on this decision.

On the occasion of the deliberations by the Bundestag and the Federal Government concerning the prevention of exports of goods and plant potentially suited to the production of chemical warfare agents, the three Federal Associations appeal to industry to apply the greatest prudence and care in accepting and executing foreign orders for such products, plant and services irrespective of the existing or future legal regulations. This contributes not only to the goal of a complete destruction of such weapons, but also to the maintenance of free international trade.

It is recommended that special attention be paid particularly in thos cases where the products, plant and services demanded by foreign customers may be put to military in addition to civil uses and where

1. the contract awarding unit is not known as a business partner;

2. no details are known about the end-user of the goods ordered;

3. transportation routes and places of destination are not unambiguously identified.

Associations and chambers inform and advise companies on all relevant provisions and licencing procedures. The Federal Associations support the activities of the Federal Government aimed at improving its set of control instruments. They welcome theprinciple of

free trade underlined by the Federal Government in this context and point out that unambiguous regulations and an efficient administration are decisive. In practice, selective controls of sensitive products are more effective than too much paper-work and additional formalities. In addition there is a need for coordinating modes of behaviour within the european Communities and the OECD. Measures taken by one country in isolation will not be able to ensure the desired effect.

The three Federal Associations warn against the conclusion based on incompletely investigated individual cases that the general mode of behaviour of the whole German export community is objectionable.

Annex 4

Report on the sequence of data received by the Federal Ministry of Finance on participation by Salzgitter Industriebau GmbH in the construction of a chemical factory in Libya

13 January 1989

After the Customs Directorate-General of the Federal Ministry of Finance had received only very vague information on possible participation by Salzgitter Industriebau GmbH (SIG), which in the Directorate-General's opinion did not need to be forwarded to the top level of the Ministry, questioning of the former managing director of IBI in Frankfurt on 12 January 1989 produced for the first time concrete signs of the alleged participation by SIG in planning and executing the "Pharma 150" project in Libya. The Ministry's top level was first informed of this on Friday, 13 January 1989 (Minister Stoltenberg and State Secretary Tietmeyer were in Washington at the time).

16 January 1989

Immediately after returning from Washington, State Secretary Tietmeyer, acting on behalf of Minister Stoltenberg, requested the Executive Board of Salzgitter AG to present a detailed report. He stated that the comapny should not just rely on data supplied by its subsidiary, but also have an internal audit carried out. The Executive Board of Salzgitter AG had already

commented on the press reports that had appeared and stated that SIG did not have any contacts with Libya, but had carried out by early 1987 on behalf of Imhausen Chemie GmbH engineering work for a project entiteld "Pharma 150" located in Hong Kong.

18 January 1989 — The Executive Board of Salzgitter AG communicated a preliminary report, according to which SIG had been awarded by Imhausen Chemie GmbH in 1984 a contract worth approximately DM 7 million on part of the piping and electrical engineering work for a plant designed to manufacture primary and intermediate pharmaceutical products in Hong Kong. As a result of two additional orders in 1985 and 1986, the total volume of the contract was roughly DM 8 million. The planning war largely completed by the end of 1986; some follow-up work was carried out until the spring of 1987.

20 January 1989 — The Executive Board of Salzgitter AG submitted a more extensive report, which also contained the results available by then from the internal audit. According to the report, the internal audit of the many documents had not revealed any references to Libya. The SIG management stated that no employee of the company had ever worked at Rabta in Libya or worked on the Rabta project.

24 January 1989 — After press reports on more extensive involvement by SIG in the construction of the Rabta plant appeared on 24 January 1989, the Federal Ministry of Finance again demanded on this date a report from the Executive Board of Salzgitter AG. The same day still, Salzgitter AG reaffirmed to the Ministry and in a press release "that staff of Salzgitter Industriebau GmbH have never been involved in the Libyan Rabta project, nor have they ever been there"; the company stated that Hong Kong had always been the site mentioned for the plant.

25 January 1989 — The Federal Ministry of Finance again transmitted to Salzgitter AG Minister Stoltenberg's request that the in-house investigations be intensively continued and

the in-house questioning of employees also be carried out.

29 January 1989	State Secretary Tietmeyer received a phone call late in the evening from the Chairman of the Executive Board of Salzgitter AG informing him that, in the course of the internal audit, a letter of 25 February 1985 from Imhausen Chemie had been found, attached to which was the copy of a telex written in English, in which the word "rabta" or "rasta" appeared. The Chairman also stated that the plant in Hong Kong had meanwhile been examined by the company's engineers, who had discovered that it did not match the engineering work done by SIG. He added that Salzgitter AG would immediately forward to the Offenburg public prosecutor the letter of 25 February 1985 plus annex.
30 January 1989	Minister Stoltenberg requested that Salzgitter AG submit as quickly as possible a detailed written report on this recent development. By the end of the same day, the Executive Board transmitted its report as well as the letter of 25 February 1985, plus annex, from Imhausen Chemie. Evidently none of the five SIG employees entrusted with the project had underlined or otherwise marked the word "rabta" or "rasta" which appeared in the telex in connection with technical data. The impression gained from the documents was that the employees had overlooked the word or possibly regarded it as the designation of the transformer station. At the time (1985), the word "rabta" had obviously not meant anything to them.

Parallel to these investigations by Salzgitter AG, all documents at the Federal Ministry of Finance concerning SIG were examined, and a statement obtained from the Ministry representative on the SIG Supervisory Board. These investigations did not reveal any information that was at variance with the description submitted by Salzgitter AG and in particular did not produce any indication of Libya being the site of construction.

The CHAIRMAN. I would add, should we also include a letter from the German Ambassador and a digest of the report in the record?

Senator HELMS. That's fine.

The CHAIRMAN. Very well.

[The information referred to follows:]

LETTER FROM AMBASSADOR JUERGEN RUHFUS

89 FEB 28 AM 3:51

THE AMBASSADOR
OF THE FEDERAL REPUBLIC OF GERMANY

Washington, D.C., February 27, 1989

The Honorable
Claiborne Pell
US Senate
335 SROB
Washington, D.C. 20510-3902

Dear Senator Pell:

The Government of the Federal Republic of Germany shares the policy of the Congress and the Administration of the United States of America to prevent the proliferation of the material and technology necessary to produce or deliver chemical or biological weapons.

The German Federal Government has, therefore, submitted to the German Bundestag (Federal Parliament) legislation to strengthen substantially the German control regime to prohibit the flow of German materials, equipment, and technology that would assist countries in acquiring the ability to produce or deliver chemical or biological weapons.

For your attention, and the attention of your staff, I have the honor to forward to you

- the policy statement by Dr. Wolfgang Schaeuble, Federal Minister and Chief of the Federal Chancellery, to the German Bundestag on February 17, 1989,

- the report by the Federal Government of February 15, 1989, giving a full account of what German authorities knew about possible participation by German companies in the construction of the Rabta chemical weapons plant, what they did to prevent such participation, and what legislative action it has decided upon to correct shortcomings of the existing legal framework.

The German Government has been deeply disturbed about German companies being involved in the transfer of chemical weapons technology to areas of international tension. The Federal Republic of Germany has for herself renounced the production or possession of such weapons. While we are improving our relevant export controls to a much more stringent level we will strengthen our efforts through multilateral diplomacy to achieve the complete abolition of chemical weapons worldwide. Against this background the German Federal Government has decided on a set of measures to strengthen export controls in general with four priorities:

- new export restrictions on militarily usable goods,
- enhancement of acquisitions and exchanges of data by and among controlling authorities in the area of nuclear, chemical, biological and other sensitive exports,
- tightening of existing provisions of penal law and the introduction of additional provisions punishing the participation by Germans at home or abroad in the production or transfer of biological or chemical weapons,

- considerable improvements in the staffing and facilities of controlling authorities.

I hope you will find this information useful in your further deliberations.

Sincerely,

Juergen Ruhfus

POLICY STATEMENT BY DR. WOLFGANG SCHAUBLE
Federal Minister for Special Tasks and
Chief of the Federal Chancellery
to the German Bundestag on February 17, 1989

The report before you, which the Federal Government adopted on 15 February, discloses many previously confidential documents. This applies particularly to reports from the Federal Intelligence Service. This is unique in our country's parliamentary history. The Federal Government wants to obtain complete clarification of what German authorities knew about possible participation by German companies in the construction of the Rabta chemical weapons plant and what they did to prevent such participation.

In disclosing confidential documents, the Federal Government has set aside the express misgivings of the Federal Intelligence Service, which fears that especially other intelligence services might thus gain an insight into its methods. This was not an easy decision for the Federal Government, which it took in compliance with its duty to report to the German Bundestag and which was prompted above all by the concern about possible participation by Germans in Libyan chemical weapons production and by numerous advance publications.

The Federal Government is a pioneer of the complete abolition of chemical weapons worldwide. Its interest in the early attainment of this goal also justifies the report's disclosures. The circumstances are of an exceptional nature and cannot therefore set a precedent. This applies to both Parliament and the public.

On 18 January of this year, I attempted here to achieve correct and complete clarification, to the extent permitted by the information available then. The Federal Government's written report prepared in the meantime is even more detailed. It is based on information provided by all the ministries concerned and by the Federal Intelligence Service, has been co-ordinated with them and has been unanimously adopted by the Cabinet. It describes the developments up to 15 February, the day on which it was adopted by the Federal Government. Despite a lot of additional information, the report generally presents the same picture. The conclusions drawn then are still valid: The relevant investigating authorities received without delay all information that

could serve as a basis for specific preliminary investigations. Within the scope of their responsibility, they took the necessary investigative measures. Above and beyond my observation of 18 January, we must assume in the light of an analysis from the Federal Intelligence Service dated 19/25 January that the plant at Rabta is suitable for the production of chemical weapons and intended for this purpose. The Federal Government received from the Federal Intelligence Service on 22 April 1980 the first report on possible plans for the construction of a chemical weapons factory in Libya. That report did not contain any information on the location and on possible participation by German companies, which meant that concrete investigations were not possible due to the indefinite nature of the report. In the subsequent period up to the summer of 1988, there were numerous other reports, which revealed varied trends. In some cases there were rumours of possible participation by German companies, while other reports (for example, even as late as 27 January 1988) stated that probably no German company was involved in the chemical weapons plant.

In the period since 1980, the relevant bodies have at all times taken the steps necessitated by the respective information available: For instance, the current Federal Government tightened the legislation on foreign trade and payments in 1984 after receiving indications of possible participation by German companies in a chemical weapons production plant in Iraq. These legislative changes are detailed in the report. The Social Democratic/Liberal coalition government did not take any action in this respect. It cannot be reproached for not having done so because the reports received then did not establish any such necessity.

Let me give another example: On 5 July 1985, the German Embassy in Moscow reported on information provided by a German businessman, according to which the Imhausen company had signed in Hong Kong a contract for the supply of a pharmaceutical project. In the informer's opinion, there were signs that in reality the project concerned supplies for chemical weapons production intended for an unknown destination, possibly Libya. Although the ambassador forwarded the report with great scepticism, the Federal Office of Economics was called in and the Federal Intelligence Service asked to examine the matter. The latter's detailed analysis showed that, although Imhausen possessed the expertise to supply all kinds of chemical plants, including ones needed for the manufacture of warfare agents, there were no signs whatsoever of Imhausen being involved in such a project. The Federal Office of Economics did not provide any contrary information either.

The Federal Government repeatedly warned German industry about supplying sensitive products in the chemical weapons sector to dubious buyers. For example, it did so on 10 June 1986.

In May 1988 the Federal Government received from the United States the first indications of participation by Imhausen in the construction of a chemical weapons plant in Libya. The Customs Criminological Institute was informed at once. The Federal Intelligence Service contacted the latter immediately after receiving further information in July 1988. The two agencies subsequently remained in close contact with each other. Not until July 1988 was the information received sufficiently concrete to enable the investigating authorities to initiate specific preliminary investigations on Imhausen. But even this information did not suffice in the summer of 1988 for the relevant investigating authorities to be able to institute formal preliminary proceedings.

Only the evidence found in Germany in late 1988/early 1989 met the requirements for instituting formal preliminary proceedings. The Federal Government's report details the investigations carried out by the Customs Criminological Institute. As regards the state of the preliminary proceedings conducted by the public prosecutor, your attention is drawn to chapter 3 of the report. It is not the duty of the Federal Government, but that of the judicial authorities of the Länder, to provide further information on this matter.

If one traces the many cases of intelligence being received, as detailed in the report, it becomes clear that follow-up investigations were indeed carried out in the few instances where the intelligence did at all provide any basis for further clarification. But I would like to state expressly that by far most of the intelligence received did not establish any concrete suspicion about German companies. This does not constitute criticism of the Federal Intelligence Service. Intelligence services are also required to pass on information that has not been fully checked out, if it may be of relevance to the government's political work. Intelligence differs by its very nature from official communications. It is thus not suited for public release.

At the ministerial meeting three days ago to discuss the draft report, it was asked why the parliamentary control commission responsible for the activities of intelligence services was not entrusted with this matter until September 1988. President Wieck stated that the information received before that date was not adequate nor sufficiently concrete and reliable for informing the commission. The chronology bears out the remark which I made in my state-

ment of 18 January that the Federal Government did not at any stage delay the flow of information to and between the relevant authorities. The flow of information to the investigating authorities was of decisive importance for clarifying any offences against legislation on foreign trade and payments.

Furthermore, the point in time when the Federal Chancellor and the relevant ministers were first informed has played a key part in the public debate. The Federal Government's report also provides exhaustive information on this aspect. Through a paper dated 20 October 1988, which was presented by the head of directorate-general 6 at the Federal Chancellory, the Federal Chancellor was first informed in summary form of the intelligence available on Libya's efforts to construct a chemical weapons factory. The possibility of Imhausen being involved was mentioned.

On 10 November 1988, the German Embassy in Washington reported on US concern about Libya being able to produce chemical weapons and announced a special briefing for the German delegation in connection with the Federal Chancellor's visit on 15 November. The Federal Chancellery was informed of the report. On 12 November, when the Federal Chancellor had already left for Simon Wiesenthal's birthday celebrations, Foreign Minister Genscher received a letter from Secretary of State Shultz corresponding to the embassy report. On 15 November, Chancellor Kohl and Foreign Minister Genscher received during their talks with Secretary of State Shultz in Washington information from CIA Director Webster on participation by German companies, including Imhausen and IBI, in the possible chemical weapons plant at Rabta. They were also told that an employee of Imhausen had frequently provided technical assistance at the technology centre there during the previous two years. The Federal Chancellor promised that the matter would at once be quickly examined and announced that German laws would be tightened if necessary.

After returning from the United States, the Federal Chancellor briefed on 17/18 November his Cabinet and the Federal Security Council on the information received from the US Administration. According to the minutes of the Federal Security Council meeting on 18 November, he stated

> "that the US Government had presented photographs and documents on the production of chemical weapons in Libya. This information had greatly disturbed him. A huge arsenal of chemical weapons was being manufactured at the production facilities in the desert. He added that a considerable part of the equipment was said to be of German origin and that German experts were allegedly involved. One of the problems

of assessing such matters was that in some cases civilian products of the chemical industry could scarcely be distinguished from substances used in chemical weapons. First of all it was necessary, the Federal Chancellor continued, to obtain a clear picture of what information was available in the United States. It should also be considered what we could do. If our laws were not sufficient, we would have to create new ones."

On 20 December 1988, still before the first publications, the Federal Chancellor directed at the Cabinet meeting that bills for tightening the legislation on foreign trade and payments be submitted by the end of February.

All of this shows that the US information was at once followed up vigorously. On the other hand, the Federal Government's reticence in making public statements before the first publications was legally necessary. Narrow legal limits are set to informing the public on possible criminal offences by citizens. A citizen or a company must not be exposed to the danger of public precondemnation, with all the personal and financial consequences this may have. Nor should public information thwart or impede the work of investigating authorities. Finally, up to 5 January 1989 the Federal Intelligence Service expressly stated that, in order to protect its sources, all the relevant intelligence was not suitable for use in court and hence not suited to public disclosure.

The German authorities thus acted within the existing legal framework. However, the analysis carried out in preparing the Federal Government's report showed that the laws are not sufficient for effectively controlling sensitive exports. Various decisive acts are not covered by them. Scientific and technological progress render control ever more complicated. In particular the growing number of new substances used for producing such items as pharmaceuticals or fertilizers may also be employed for manufacturing chemical weapons. It is thus becoming increasingly difficult to control the transfer of such products to Third World countries. The instances requiring approval must therefore be changed.

The existing instruments have proved to be inadequate particularly for effectively controlling exports in the chemical weapons sector. These deficiencies are connected, on the one hand, with access to data on export movements and, on the other, with the exchange of data between authorities. The acquisition of comprehensive data and an unimpeded exchange of data are indispensable for effective control, and in order to detect any chemical weapons capability of individual exports, for example when plant components

are exported separately, the controlling authorities must be informed of all export movements and be able to link up this information. This interlinkage is all the more important, considering that even under normal circumstances the exportation of industrial plants is in many cases divided up according to specific jobs. Anyone who deliberately wants to bypass the export controls will make still greater use of this possibility.

The report states: "Given a closer interlinkage of data, it would probably have been possible to take action at an earlier stage." This is an important observation. Data protection is based on the concept of keeping data apart as far as possible. However, if data on individual export movements cannot be interlinked, we shall never obtain a picture of all sensitive exports. Without data interlinkage, without a kind of systematic scanning to detect potentially suspicious supplies, it will almost inevitably be left to chance as to whether the controlling authorities can prevent illegal exports.

The Federal Government has therefore decided to facilitate the acquisition of data as well as data exchanges between controlling authorities. It will endeavour to establish the necessary protective regulations on data storage and utilization so that suspicion does not fall on blameless entrepreneurs. On the other hand, we must go as far as is permitted by legislation on data protection if we are to prevent more effectively the spread of sensitive technology used for military purposes. Against this background, the Federal Government decided on a set of measures with four priorities when adopting the report:

- new export bans on militarily usable goods;
- enhancement of data acquisition by controlling authorities and of data exchanges among them;
- tightening of existing punishments and fines as well as punishability of participation by Germans at home or abroad in the production or transfer of biological and chemical weapons;
- considerable improvement in the staffing and facilities of controlling authorities.

In pursuing offences against the legislation on foreign trade and payments, the facilities and expertise of the Federal Criminal Investigation Office are to be used to a greater extent in future.

The expansion of foreign trade controls partly extends into the Federal Republic of Germany's liberal legislation on foreign trade and payments. The controlling authorities will be better equipped not least in order to ensure that this does not give rise to excessive obstacles to foreign trade. By extending the application of criminal provisions of foreign trade legislation to acts committed abroad by Germans, the Federal Government is breaking new legal ground. However, it considers the provisions created for this purpose to be indispensable for attaining the goal pursued by tightening foreign trade controls. But we must guard against illusions: Even the new measures cannot guarantee absolute control of the transfer of sensitive technology abroad. No laws are so effective as to completely rule out any contraventions.

The central associations of German industry have stated that they appreciate the need for the envisaged tightening of foreign trade controls and have offered their assistance to the Federal Government. The Government and industry are both interested in ensuring that export business is not discredited by the conduct of a few individuals. After all, one in every three jobs in the Federal Republic of Germany depends on exports. In the industrial and technological sector, every government is dependent on the know-how, information and participation of its country's industry. The latter is most familiar with the development of new products in sensitive areas. It knows a great deal that a bureaucracy can find out only more slowly. Trade and industry know more and often react more efficiently than government agencies. The Federal Government therefore appeals to the sense of responsibility of German industry and calls upon it to engage in dialogue and co-operation.

The adopted improvements in the legislation on foreign trade and payments and in organizational structures at the national level must be supplemented by international co-operation. The Federal Government has to this end taken action in the organs of European Political Co-operation. It has in addition proposed a joint initiative by the Twelve on the prevention of chemical weapons proliferation, to be launched within the Australian Group, to which the 19 main industrial nations of the Western world belong. It has suggested that the Twelve launch another initiative vis-à-vis the Arab League.

But let me stress this here: International efforts towards the non-proliferation of chemical weapons must on no account be a substitute for the Geneva negotiations aimed at the complete abolition of this class of weapons. The Federal Government views agreements on the non-proliferation of chemical weapons merely as an interim step on the path towards the total prohibition and elimination of these weapons.

Last week I held, at the Federal Chancellor's request, talks with the US Administration, with leading American politicians of both Houses of Congress and of both parties and with representatives of American media. I informed them of the comprehensive political, legislative and organizational conclusions drawn by the Federal Government from the recent occurrences. In the talks with President Bush, Secretary of State Baker and Trade Secretary Mosbacher, I met with their full confidence in, and approval of, the measures initiated by us. The members of Congress acknowledged in all the talks the measures envisaged by the Federal Government. No senator or representative doubted their suitability for more effectively preventing sensitive exports in future. In several cases they expressed the hope that the decisions would quickly be put into effect by the Bundestag.

On the other hand, it became apparent that the danger of Congress enacting legislation that imposes sanctions, which would in fact hit German companies in particular, has not yet been warded off. I appealed to the members of Congress to gear any sanctions against foreign companies to the same legal requirements as are applicable to sanctions against US companies. I also warned against foreign companies being precondemned in public and being pilloried without any examination conducted in accordance with the rule of law. Finally, I explained how important it is to maintain industry's readiness for co-operation. This is only possible if sanctions truly hit only the black sheep.

The prohibition of chemical weapons is a paramount objective of all political forces in the Federal Republic of Germany. For this reason, too, the Federal Government is so disturbed about German companies possibly being involved in the transfer of chemical weapons technology to irresponsible governments. That is why the Federal Government is presenting this exceptional report, despite the misgivings of the Federal Intelligence Service. This is also why we have prepared bills that break new legal ground and reach as far as is economically and legally possible. It is also the reason why we accept partial hindrances to German foreign trade.

We are at one on these goals, and this should also be manifest in the seriousness with which we conduct this debate. The common objective of the Federal Government and the Bundestag must now be to put into effect as quickly as possible the measures initiated for tightening foreign trade controls. Though a critical examination of the past is highly necessary, let us nonetheless work together for the sake of the future.

Senator HELMS. Now, page 10 of this report—may I inquire, have you been supplied with a copy of this report, Judge?

Judge WEBSTER. I don't think so, Senator.

Senator HELMS. Well, somebody make sure that Judge Webster has a copy.

I won't ask you to read it now.

Judge WEBSTER. My staff has one, but I do not. [Pause.]

Thank you. I have one now.

Senator HELMS. On page 10 of this report, there is a very clear indication that the West German equivalent of the CIA—I believe it is called the BND; is that correct?

Judge WEBSTER. That's correct.

Senator HELMS [continuing]. Informed the German Government that the German firms may have constructed a second poison gas facility at the Abu Khammash chemical plant, or near a nuclear facility.

Do you have any information to indicate that a second facility, other than Rabta, has been built with the assistance of German firms, or is this something you would rather talk about this afternoon?

Judge WEBSTER. I'd rather talk about it this afternoon.

Senator HELMS. Fair enough.

Now, there is a map that I would like to show you. [Indicates chart.]

The inner ring on this map shows Qadhafi's Mig-23's without air-to-air refueling, their range. They can just about reach the Suez Canal. The outer ring, of course, shows what German air-to-air refueling can do for Qadhafi. He can deliver his poison gas bombs to Israel.

Now, page 49 of the report that we have just discussed briefly indicates that the German Government is investigating whether West German military officials have been involved in the air-to-air refueling project.

Is this something that you would prefer to discuss this afternoon?

Judge WEBSTER. I would prefer to discuss it this afternoon. But you are right on target.

Senator HELMS. Mr. Chairman, I don't want to put Judge Webster on the spot in trying to respond to questions because he has always been a very forthright man, and I can understand this sensitivity.

I believe I am going to stop now.

Judge WEBSTER. Senator Helms, I appreciate your concern, and I thank you for it.

But you have, in showing that map, I think illustrated one of the really significant strategic changes that this kind of weaponry could have.

It moves it off the battlefield——

Senator HELMS. Right.

Judge WEBSTER [continuing]. And puts it into the cities and strategic areas of the whole region. It can be delivered by a range of weapons, including aerial weapons, mortars, and missiles. The SCUD's that are over there have already been used, it appears.

So, it is something that is more than just a little battlefield problem.

Senator HELMS. You are exactly right.

One last point, and then I will conclude, Mr. Chairman.

Judge, will somebody be present at this afternoon's hearing who can respond to questions regarding missile sales to the Middle East?

Judge WEBSTER. Yes.

Senator HELMS. Fine.

I thank you, Mr. Chairman.

The CHAIRMAN. Thank you very much.

Senator Lugar.

Senator LUGAR. Mr. Chairman, let me just mention something, because I have been reading with interest the report that Senator Helms has presented. I think he mentioned, but I would reiterate, that the report was submitted by the Government of the Federal Republic of Germany to the Bundestag on February 15, 1989—it has official status—concerning the possible involvement of Germans in the establishment of a chemical weapon facility in Libya.

I suspect that the point needs to be underlined, that the West German Government has taken these international charges very seriously.

The first portion of the report has reiterated the policy of that country. But, I think to the credit of those who filed the report, they have brought forward severe inadequacies in the ability to control activities in Germany; specifically, the last portion of the section on in-flight refueling points out that it is not clear whether anybody with the German military, retired, with previous association, or anyone in a position to obtain the sort of technical know-how, was commercially involved for profit. But the West Germans are carefully investigating this possibility.

Senator HELMS. Would the distinguished Senator yield?

Senator LUGAR. Yes.

Senator HELMS. The point is, Senator Lugar—and I know you understand what I am driving at—our Government has been pleading with the German Government for the better part of a decade about this very matter.

Now, I appreciate that, at long last, the German Government is doing something. I am not entirely prepared to cannonize the German Government at this late date, but I am glad, finally, that they have gotten around to it.

Senator LUGAR. Well, I would respond that I wouldn't want to cannonize the government either. I think the earlier discussion we had indicated that we are looking for ways in which we can influence our friends to be substantially more responsive and aggressive in fighting this problem.

I think, as you pointed out, Judge Webster, there appears to have been some reticence to follow intelligence to its conclusions, in terms of adoption of laws or procedures, within friendly governments, including West Germany.

So, I concur with my colleague from North Carolina that this report is to be applauded. It does not exonerate or waive away activity.

Senator HELMS. Yes.

Senator LUGAR. As a matter of fact, it would appear to me that the West German Government is now, for a variety of reasons,

taking this common threat very seriously, and this is to be applauded.

Judge WEBSTER. I would like to say for the record that, at the present time, our liaison with the German intelligence service is excellent, and we are working hand-in-glove to try to bring as much information to bear on the problem as possible. Regardless of the circumstances under which this thing developed momentum, we don't want to do anything to disturb that momentum.

Senator LUGAR. Thank you.

The CHAIRMAN. Thank you very much.

One further question, Judge Webster.

In your statement, you observed that Libya's ability to sustain large-scale chemical warfare production would depend on continued foreign assistance.

To the best of your knowledge at this time, is Libya now receiving any foreign assistance?

Judge WEBSTER. Well, we continue to receive information relative to specific kinds of assistance. They got off to a bad start in August, and immediately called for foreign help to get them back in place.

I think that we probably can elaborate a little more fully on that this afternoon.

The CHAIRMAN. Good.

Thank you very much, indeed.

The hearing will be adjourned, and we will meet again at 2 o'clock in room S–116, for a closed hearing.

[Whereupon, at 10:53 a.m., the committee adjourned, to reconvene at 10:02 a.m., Tuesday, May 9, 1989.]

CHEMICAL AND BIOLOGICAL WEAPONS THREAT: THE URGENT NEED FOR REMEDIES

TUESDAY, MAY 9, 1989

U.S. SENATE,
COMMITTEE ON FOREIGN RELATIONS,
Washington, DC.

The committee met at 10:02 a.m. in room SD–419, Dirksen Senate Office Building, Hon. Claiborne Pell (chairman of the committee) presiding.

Present: Senators Pell, Sarbanes, Helms, and Pressler.

Senator PELL. The Committee on Foreign Relations will come to order.

I am very glad to welcome our four panelists this morning. Dr. Meselson has played a key role in informing the executive branch, Congress and the public on the chemical and biological weapons issues. Mr. Leonard has been involved both in and out of Government in efforts to control both chemical and biological weapons. Dr. Carpenter has been instrumental in helping to make certain that the administration of the chemical industry work together effectively to open the way to an effective, sound chemical weapons ban, and Dr. Bryen, who was deeply involved in Department of Defense efforts to control technology transfer.

I am delighted that the President recognizes the urgency of chemical weapons and am pleased that the administration has accepted the principle that sanctions should be applied against nations that use chemical and biological weapons and against companies that aid in the development of chemical weapons.

I have introduced with the ranking minority member Senator Helms and more than 30 cosponsors a bill, S. 195, which deals with the problems of chemical weapons use. Senator Helms and I are cosponsoring legislation dealing with companies which engage in this commerce.

The committee will move to the markup with chemical weapons legislation, and I know that your testimony will be most helpful. I will now turn to the ranking minority member.

OPENING STATEMENT OF SENATOR HELMS

Senator HELMS. Mr. Chairman, thank you very much.

As you have indicated, this is the fourth hearing the committee will have had this year on proliferation of chemical and biological weapons. I think this attention reflects the importance with which the chairman and other members of the committee and I view this issue.

In very stark terms, with the critical assistance of well-known Western European and Japanese firms, the four most radical regimes in the world are achieving the capability of a strategic strike with mass destruction weapons.

Now as I understand it, today's hearing will focus on the material delivered to us. I am pleased to note that Chairman Pell has agreed to further hearings on the delivery systems, particularly missile technology, and I thank the chairman for that.

The threat to U.S. personnel and our friends in the Middle East is real. It is not potential; 3,500 Kurdish men, women, and children have already paid with their lives for German technology sold to Iraq. The committee has already heard testimony indicating that the United States has been engaged for several years in an extensive diplomatic effort to persuade some of our allies to control the improper exports of their firms. This diplomatic effort, obviously, has failed, not because our officials have not tried, but because of intransigence among some of our allies.

Now, I am pleased to cosponsor with the distinguished chairman, S. 195 and S. 238, both of which are designed to meet this challenge. Last week, the administration announced that it is willing to work with the Congress on sanctions legislation. That is good news, as the chairman has indicated. I hope today's witnesses can address the legislative proposals and give us their views on what may be a practical solution and what may not be. I thank you, Mr. Chairman.

The CHAIRMAN. Thank you very much, Senator Helms. If Dr. Bryen, Dr. Carpenter, Mr. Leonard, and Dr. Meselson could all come forward, we would be very grateful. I imagine we might as well proceed in alphabetical order. Dr. Bryen, we will ask you to lead off. Dr. Bryen, would you please proceed.

STATEMENT OF DR. STEPHEN D. BRYEN, PRESIDENT, DELTA-TECH, ARLINGTON, VA

Dr. BRYEN. Thank you, Mr. Chairman. Thank you for inviting me to testify today on the subject of chemical and biological weapons.

Before leaving Government last October——

The CHAIRMAN. Excuse me for interrupting, but I would note, as I understand it, you are abbreviating the statements to under 10 minutes. The full text will appear in the record as if written.

Dr. BRYEN. Thank you, Mr. Chairman. It is a very brief statement, in any case.

Before leaving Government last October, I served as Deputy Under Secretary of Defense for Trade Security Policy and also as Director of the Defense Technology Security Administration. During more than 7 years of service I became familiar with the worldwide system of export controls. In that connection, I thought it most important to discuss with you today chemical and biological weapons in the context of export controls.

We use export controls to regulate certain aspects of high-technology trade with the Warsaw Pact countries, with China, and with some other Communist countries. There, basically, are three control lists in effect. One is called the Commodity Control List. That

covers items which can be used to make military weapons or which can be used for civilian purposes. It is up to the export control apparatus to decide which and whether the transfer is legitimate.

The second type of control deals with the Atomic Energy List. These are for nuclear weapons materials. There is a list of items that pertain.

The third list is what we call the Munitions List. On the Munitions List are real weapons systems.

The CHAIRMAN. Excuse me. Can the people in the back of the room hear the witness? I see that they cannot. Perhaps you could get closer to the microphone.

Senator HELMS. Just pull it toward you a little bit.

Dr. BRYEN. Thank you.

In effect, we have three basic lists which are used to control exports. One is administered by the Commerce Department. That is the Commodity Control List. The State Department administers the Munitions List in cooperation with the Defense Department. The third one, the Atomic Energy List, is run primarily through the Energy Department with quite a lot of consultation from Defense and State.

There is no chemical weapons list as such. That is to say, there is no precise list of items which could be used for the manufacture either of chemical or biological weapons. This has caused some difficulty.

To give you a specific and concrete example, which I cover in my statement, about 4 years ago there was a large delivery of chemicals that was going to Iraq in large enough quantities that it was pretty certain that it was going to be used to manufacture mustard gas. The Customs Department seized those chemicals and immediately found themselves in a quarrel with the Commerce Department which contended, I think correctly, that under U.S. law, those items were not controlled. Therefore, Commerce's view was that they should be released and delivered to Iraq.

The intelligence on the case was clearcut. There was no doubt about the end use. In the end, after quite a lot of high level intervention, the transaction was blocked. But it could have easily gone the other way. I would imagine today that the transfer of these chemical and other substances not only from the United States but from the allied countries and Japan still presents a significant problem which we have yet to really deal with.

What we need to do, in my opinion, if we are serious about chemical and biological weapons and their proliferation is, first, to create a list, a control list, which is not only implemented in the United States but is implemented in most of the other advanced industrial countries. You have to have that if you want to set some legal criteria for the control of these goods. The second is to then insist upon a common system of export controls so that there is a way to administer the process.

Short of that, you end up with an entirely unsatisfactory situation, it seems to me, where Western companies in one way or another will continue to cooperate with countries and with programs to produce chemical and biological weapons. I think we have seen enough in the Iran-Iraq war in recent history to know what the consequences are of these such weapons.

They are essentially terror weapons. They are aimed at civilian populations. They are not really warfighting weapons in the conventional sense. In the wrong hands, and I think they were in the wrong hands, they can cause terrible destruction.

So, the burden of my statement, Mr. Chairman, is to say, if we want to get at this problem, then we should do a systematic job of it, create a proper control system. You start with a list. You have to have laws to back that up. Then enforce those laws as vigorously as you can, and make sure that our allies and other friendly countries that share our concern, and there are many, take similar and parallel steps so that we can achieve a system of controls that has some possibility of working. Thank you, Mr. Chairman.

[The statement of Dr. Bryen follows:]

PREPARED STATEMENT OF DR. STEPHEN D. BRYEN

Thank you for inviting me to testify today on the subject of chemical and biological weapons. Before leaving Government last October, I served as Deputy Under Secretary of Defense for Trade Security Policy and as Director of the Defense Technology Security Administration. During more than 7 years of service I became familiar with the worldwide system of export controls. In that connection I thought it most useful to discuss chemical and biological weapons and materials availability to produce such weapons from the point of view of the control of exports.

We use export controls today to regulate certain aspects of high-technology trade with the Warsaw Pact countries, with China and with certain other countries. There are three control lists in use—the Commodity Control List which is a list of mainly high-technology items that have been placed on the list to block their export to Warsaw Pact countries; the International Atomic Energy List which controls goods that can be used to make nuclear weapons; and a Munitions List which is intended to control actual weapons systems. There is no separate list of goods and materials that could be used to manufacture or deploy chemical or biological weapons. Obviously, if we believe there is a growing threat from this sector then it would be in our interest to draw up a clear-cut list of items that should be tightly controlled.

A list is merely a first step. Next we will need to have a control system that will work and can be enforced. This means that the countries possessing such technology will have to agree to a licensing system that will render companies and individuals in these countries legally accountable.

On the whole the existing export control infrastructure of the COCOM countries can support expansion to control chemical and biological weapons if we all agree that is what we want to do. Without such an infrastructure, the prospect of effective control of such goods and technology is nil. With such an infrastructure functioning, and with good faith, it should be possible to slow the proliferation of such materials. In particular it ought to make it difficult for some countries to get highly specialized equipment and unique protective gear that would permit them to make progress in fabricating and testing these products.

To some degree we can bootstrap a strong chemical and biological weapons control effort by tightening up the system we presently have in place here in our own country. The control of these goods and technology is, today, hit or miss. We do not have a systematic effort to control either the goods or the technology. Key agencies that have expertise in this area are not consulted regularly about this problem. The Defense Department, where I worked, plays only an incidental role in reviewing licenses to countries who may be involved in building up a chemical or biological weapons capability. From time to time we did identify goods that we thought were intended to support chemical and biological weapons efforts in third countries and we sought to block such transfers. But there certainly were many others goods that were transferred and which we never saw or reviewed. I recall, for example, chemicals for mustard gas that were seized by the Customs Department which were on their way to Iraq. When we reviewed that matter we found that officially the chemicals were not on the control list. It took a considerable amount of discussion, down to the 11th hour as I recall, to convince the Commerce Department to allow us to block the export legally, even though there was a war going on between Iran and Iraq and there was no doubt that these chemicals were going directly into Iraq's poison gas program.

There were other experiences like this which occurred. My conclusion is that if we are serious about controlling these goods and technology to prevent chemical and biological weapons from proliferating then the only workable approach is to develop a control list, implement it here in the United States and in the allied countries, and enforce it.

I do not believe that broadly based statements and agreements on the international level are going to slow down the race to develop these weapons by those countries that have such programs underway. The only workable way to halt the spread of these weapons is a comprehensive effort using strictly enforced export controls.

The CHAIRMAN. Thank you very much, Dr. Bryen. Mr. Leonard.

STATEMENT OF MR. JAMES F. LEONARD, FORMER ASSISTANT DIRECTOR INTERNATIONAL RELATIONS BUREAU, ARMS CONTROL AND DISARMAMENT AGENCY, ARLINGTON, VA

Mr. LEONARD. Thank you, Mr. Chairman. I am very grateful for this opportunity to appear before your committee. Before making my own statement, let me say that I endorse very strongly the points that Dr. Bryen has just made. I think that is exactly the right way to start the consideration of this matter. I have a very brief prepared statement, Mr. Chairman.

I strongly support the objectives, the general approaches, and most of the specific provisions of the two bills which are under discussion today. I would offer my compliments to you and to Senator Helms for your initiatives in this matter. I think it is beyond argument that any spread of chemical or biological weapons would be contrary to the interests of the United States and of the entire international community. In fact, there are not many subjects on which opinions both here and abroad are so nearly unanimous.

Unanimity on the objective, however, does not ensure unanimity on the means to reach that goal. I would like to make four principal points with regard to means. Later, if it is in order, there are a number of secondary, specific elements about the legislation that we might discuss.

My first point, Mr. Chairman, is the relationship between unilateral U.S. action and broad, multilateral action by the United States and other governments. This has already been raised by Dr. Bryen. Unilateral action of the kind called for in these two bills is, I suggest, highly desirable and timely. But it will not do the job unless it is accompanied or followed by action involving virtually all members of the community of nations. Sanctions by the United States against a government violating the Geneva Protocol are desirable, and they would have some effect even if we were alone, out in front of the pack. But the effect would diminish and would fade away over time unless other governments followed our lead. The same applies to sanctions against some private company or individual that is furnishing material or technology to a violator or to a potential violator of the Geneva Protocol.

Second, Mr. Chairman, this very basic fact—the need for multilateral action—leads us directly to the United Nations. One may think well of the United Nations, or one may think badly of the United Nations. Personally, I prefer to think well or badly of the governments, the members of the United Nations, who determine how it is going to behave. The United Nations is not, after all, some kind of independent superpower which decides all on its own what it is going to do. But whatever one's attitudes toward the

United Nations, it is the only instrument, it is the only institution available to us to rally the necessary broad support which sanctions must have if they are going to be effective. This fact is reflected in section 11 of your bill, Mr. Chairman, and I suggest that some similar language would be appropriate also in Senator Helms' bill.

Third, there is another important conclusion to be drawn from the obvious requirement for multilateral support for any sanctions that might be instituted by the United States. It is the need for a multilateral treaty prohibiting any possession of chemical weapons. Such a treaty is under negotiation in Geneva. There has been an extraordinary measure of agreement developed on that text since it was submitted originally by then Vice President Bush. This work on a treaty could well be completed within the next year or so if it is pressed vigorously. I would think it would certainly be encouraging to the negotiators to have their efforts endorsed by leading Members of the Senate, since this is the body that will have to give agreement to ratification. Again, Mr. Chairman, I am pleased to note the reference to this negotiation in section 10(d) of your bill.

Finally, I would like to warn against one possible approach to the problem of chemical weapons which could have very undesirable consequences. We must not permit the complex problems of negotiating a comprehensive ban to drive us back into a "second-best" approach: an effort simply to halt chemical proliferation while permitting chemical weapons to remain indefinitely in the possession of the United States and the Soviet Union, and perhaps a few other responsible governments, so-called responsible governments. I will put it very categorically, Mr. Chairman: there is not going to be any chemical NPT.

It was really something of a diplomatic miracle that in 1968 the United States and the Soviet Union succeeded in pushing a nuclear NPT. We would be very foolish to look for a second miracle of that sort. It is simply not an available option today.

Now, this is not to downgrade or dismiss the efforts of our Government and others to keep the problem from getting worse while we work on a permanent, comprehensive solution. But nothing would more directly undercut those efforts than for us to give up on the pursuit of a universal ban. Moreover, Mr. Chairman, it is not enough to give lipservice to the need for success in the Geneva negotiation. Unless our sincere and energetic pursuit of a treaty is plainly apparent, unless our enemies as well as our friends sense our determination to overcome the very real obstacles which remain, a number of governments will then conclude, some of them reluctantly but some of them, perhaps, eagerly, that their only security lies in possessing chemical weapons. Then, Mr. Chairman, the effort to halt proliferation will simply collapse.

Let me just add one personal comment, for whatever it is worth. I was in Moscow several weeks ago. The group I was with had extensive discussions with responsible Soviet officials on chemical weapons. From these discussions, I am convinced that the Soviet Government understands the danger of chemical proliferation and accepts that the only durable, effective solution to it is a comprehensive treaty. The Soviets are the one essential negotiating partner for us in this matter. I believe that they are sincere in wanting agreement on terms that we can accept. Thank you, Mr. Chairman.

[The statement of Mr. Leonard follows:]

PREPARED STATEMENT OF JAMES F. LEONARD

I strongly support the objectives, the general approaches, and most of the specific provisions of the two bills under discussion today; and I offer my compliments to you and to Senator Helms for your initiatives on this matter. I take it to be beyond argument that any spread of chemical or biological weapons would be contrary to the interests of the United States and of the entire international community. There are not many subjects on which opinions both here and abroad are so close to being unanimous.

Unanimity on this objective does not, however, ensure unanimity on the means to reach that goal, and I would like to make four principal points with regard to means. Later, if it is in order, there are a number of secondary, specific elements in the draft legislation that I might comment on.

My first point is the relationship between unilateral U.S. action and broad, multilateral action by the United States and other governments. Unilateral U.S. action of the kind called for in these two bills is highly desirable and timely. It will not do the job, however, unless it is accompanied or followed by action involving virtually all members of the community of nations. Sanctions by the United States against a government violating the Geneva Protocol are desirable, and they would have some effect even if we were alone, out in front of the pack. The effect would diminish and fade away, however, unless other governments followed our lead. The same applies to sanctions against some private company or individual that was furnishing material or technology to a violator or a potential violator of the protocol.

Second, this very basic fact—the need for multilateral action—leads us directly to the United Nations. One may think well or badly of the U.N. Personally I prefer to think well or badly of the governments, the members of the U.N., who determine how it is going to behave. The U.N. is not, after all, some kind of independent superpower which decides all on its own what it will do. But whatever one's attitude toward the U.N., it is the only instrument, the only institution, which is available to rally the necessary broad support which sanctions must have if they are to be effective. This fact is reflected in section 11 of your bill, Mr. Chairman, and I suggest that some similar language would be appropriate also in Senator Helms' bill.

Third, there is another important conclusion to be drawn from the obvious requirement for multilateral support for any sanctions which might be instituted by the United States. It is the need for a multilateral treaty prohibiting any possession of chemical weapons. Such a treaty is under negotiation in Geneva, based on a text presented by President Bush while he was Vice President. An extraordinary measure of agreement has already been reached on a common text and this work could well be completed within the next year or two if it is pressed vigorously. It would certainly be encouraging to the negotiators to have their efforts endorsed by leading Members of the Senate, the body which will have to give its consent to ratification. Again, Mr. Chairman, I am pleased to note the reference to this negotiation in section 10(d) of your bill.

Finally, I would like to warn against one possible approach to the problem of chemical weapons which could have very undesirable consequences. We must not permit the complex problems of negotiating a comprehensive ban on chemical weapons to drive us back into a "second-best" approach: An effort to halt chemical proliferation while permitting chemical weapons to remain indefinitely in the possession of the United States and the Soviet Union, and perhaps a few other "responsible" governments. I will put it very categorically, Mr. Chairman: There is not going to be any chemical NPT.

It was something of a diplomatic miracle that in 1968 the United States and the U.S.S.R. succeeded in pushing a nuclear NPT through the system. We would be foolish to look for a second miracle of that sort. It is simply not an available option.

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I will just add one personal comment, for whatever it is worth. I was in Moscow several weeks ago and the group I was with had extended discussions of chemical weapons with the responsible Soviet officials at both the working level and the senior level. From these discussions, I am convinced that the Soviet Government understands the danger of chemical proliferation and accepts that the only durable, effective solution to it is a comprehensive treaty. The Soviets are the one essential negotiating partner for us in this matter, and I believe they are sincere in wanting an agreement on terms we can accept.

The CHAIRMAN. Thank you very much indeed, Mr. Leonard. Dr. Meselson.

STATEMENT OF DR. MATTHEW S. MESELSON, PROFESSOR OF BIOCHEMISTRY, HARVARD UNIVERSITY, CAMBRIDGE, MA

Dr. MESELSON. Thank you, Mr. Chairman. I welcome this opportunity to appear before you to discuss measures to stop the proliferation of chemical and biological weapons and to ensure that such weapons are not used.

Today there are two opposite and accelerating trends influencing whether acquisition and use of chemical and biological weapons become widespread or whether instead, a stable international regime can be established that will prevent the exploitation of the biomedical sciences for hostile purposes.

One trend is exemplified by the production and recent use of poison gas by Iraq, by evidence that chemical weapons capability is further proliferating in areas of international instability and by the continued, although apparently receding, prospect of a chemical arms race between the United States and the Soviet Union.

The contrary trend is evidenced by major progress in the Geneva negotiations for an international treaty banning chemical weapons, by the Paris conference proposed by President Reagan on the prohibition of chemical weapons that took place early this year, and by the concern of the U.S. Congress and the strong commitment of President Bush. George Bush, before and after his election to the Presidency, has repeatedly declared his determination to achieve a global ban on chemical and biological weapons.

One approach to limiting the proliferation of chemical weapons is for potential supplier nations to devise and apply selective export controls. The 19 members of the Australia Group of Nations meeting semiannually in Paris have agreed to control their exports of nine chemicals that can be used to produce mustard gas or nerve agents. The United States and the Soviet Union hold periodic consultations in Berne, Switzerland, on preventing the spread of chemical weapons. It is evident, however, that selective export controls by themselves can be of only limited and temporary effectiveness in preventing a country from acquiring a significant chemical or biological capability if its leadership decides to do so.

Selective export controls can be circumvented. It does not matter much whether 9 potential sources of supply can be blocked if a 10th source delivers. There will, inevitably, be disagreement among the potential suppliers as to just what should be denied and to whom. And there are differences among the nations in their abilities to control their own exports.

Selective export controls by themselves, while partially effective for a few years, may actually promote proliferation in the longer term. Nations denied foreign chemicals and equipment may decide

to acquire indigenous capability. This has happened in the case of Iraq. In order to appreciate the relative ease of doing so, one has only to recall that even with the technology of 70 years ago, in World War I, mustard gas weapons highly effective against unprotected personnel, were produced in vast quantities. The German process, for example, required only three simple substances: grain alcohol, bleaching powder, and sodium sulfide. With these, Germany made thousands of tons of mustard gas. The allied process for making mustard gas was different, but equally simple.

Confronted with uncertain import prospects, nations that would not have embarked on a chemical weapons program may take steps in that direction as a strategic hedge to keep their chemical weapons option open. Once investments are made and an indigenous chemical weapons establishment emerges, production, transfer, and use become that many steps closer to happening.

Selective export controls are nevertheless necessary. The United States, through the Arms Export Control Act and the Export Administration Act, has a good system of export controls. People are in jail and people are standing trial because of violations of those controls. But a more effective and more stable series of measures going beyond selective export controls is called for. Two mutually reinforcing approaches are available. These are a verifiable global ban on chemical weapons and a system of well thought-out sanctions against violators.

The U.S. Government has a longstanding commitment, through five successive administrations, to the conclusion of an effective treaty to prohibit the development, production, possession, and transfer of chemical weapons, subject to onsite international verification. This treaty, the Chemical Weapons Convention, is now in an advanced stage of negotiation by the 40-nation Conference on Disarmament in Geneva. The present "rolling text" of the Convention is largely based on the U.S. Draft Treaty presented in Geneva in August 1984 by then Vice President George Bush. At the time, the Soviets and even some of our allies were not willing to accept the tough verification measures called for in the U.S. Draft Treaty. But with the changing attitude of the Soviet Union to onsite verification, the United States position has won out.

Negotiations on the remaining issues at Geneva could be completed within a year. Separately, there are bilateral issues of confidence between the United States and the Soviet Union that must be resolved before a convention is signed. Further work is also needed on procedures for verification of compliance by onsite inspection. Overall, however, the prospects for successful conclusion of a chemical weapons convention are good.

A chemical weapons convention would send a powerful signal to the governments and peoples of the world, reinforcing the already widespread abhorrence of chemical weapons. It would create tough international verification procedures to deter violations and to provide more reliable and internationally credible information regarding both well-founded suspicions and erroneous allegations. A chemical weapons convention would eliminate large stocks of Soviet chemical weapons that threaten Europe, when the value of United States chemical weapons is severely limited by the strong reluctance of our NATO allies to integrate them into military plan-

ning and by the pervasiveness of modern antichemical defenses deployed by the Soviets. Finally, a chemical weapons convention would provide a uniform political and legal basis for sanctions against noncompliance, a subject of the bills before you.

Provisions for sanctions must meet a number of requirements, not all of them easily reconciled. First, there must be a reliable and credible basis for invoking them. By whom and how is it to be determined that an offense has occurred? Even determining whether or not chemical and biological weapons have been used can be difficult and controversial in certain circumstances, as experience has shown.

Second, the sanctions must impose a cost on the offender, not on the party doing the sanctioning. The value of the sanctions in deterring violations must be balanced against their costs, in the present case, to the U.S. Government and economy. Such costs include undesirable limitations on the President's conduct of foreign relations and burdens on U.S. industry and commerce. Making sanctions multilateral reduces those costs and increases the force of the sanctions.

These problems can be solved and useful sanctions can be devised, but wide consultation and great care in their design are essential to success.

A system of sanctions against the acquisition, possession, and use of chemical and biological weapons will be maximally effective when it is joined to a global chemical weapons convention with strong provisions for international verification.

I would welcome your questions.

[The statement of Dr. Meselson follows:]

PREPARED STATEMENT OF MATTHEW MESELSON

I welcome this opportunity to appear before you to discuss measures to stop the proliferation of chemical and biological weapons and to insure that such weapons are not used.

Today, there are two opposite and accelerating trends influencing whether the acquisition and use of chemical and biological weapons becomes widespread or whether, instead, a stable international regime can be established that will largely prevent exploitation of the biomedical sciences for hostile purposes.

One trend is exemplified by the production and recent use of poison gas by Iraq, by evidence that chemical weapons capability is further proliferating in areas of international instability and by the continued although apparently receding prospect of a chemical arms race between the US and the USSR.

The contrary trend is evidenced by major progress in the Geneva negotiations for an international treaty banning chemical weapons, by the Paris Conference on the Prohibition of Chemical Weapons early this year, and by the concern of the US Congress and the strong commitment of President Bush. George Bush, before and after his election to the Presidency has repeatedly declared his determination to achieve a global ban on chemical and biological weapons.

One approach to limiting the proliferation of chemical weapons is for potential supplier nations to devise and apply selective export controls. The nineteen members of the "Australia Group" of nations meeting semi-annually in Paris have agreed to control their exports of nine chemicals that can be used to produce mustard gas or nerve agents. And the US and the USSR hold periodic consultations in Bern on preventing the spread of

chemical weapons. It is evident, however, that selective export controls by themselves can be of only limited and temporary effectiveness in preventing a country from acquiring a significant chemical or biological weapons capability if its leadership decides to do so.

Selective export controls can be circumvented. It does not matter much whether nine potential sources of supply can be blocked if a tenth source delivers. And there will inevitably be disagreement among the potential suppliers as to just what should be denied and to whom -- and differences among the nations in their abilities to control their own exports.

Selective export controls by themselves, while partially effective for a few years, may actually promote proliferation in the longer term. Nations denied foreign chemicals and equipment may decide to acquire indigenous capability. In order to appreciate the relative ease of doing so, one has only to recall that even with the technology of 70 years ago, in World War I, mustard gas weapons highly effective against unprotected personnel were produced in vast quantities. Confronted with uncertain import prospects, nations that would not have embarked on a chemical weapons program may take steps in that direction as a strategic hedge to keep their chemical weapons option open. Once investments are made and an indigenous chemical weapons establishment emerges, production, transfer and use become that many steps closer to happening.

Selective export controls are necessary but they are clearly insufficient. A more effective and more stable series of measures, going beyond selective export controls, is called for. Two mutually reinforcing approaches are available. These are a verifiable global ban on chemical weapons and a system of well thought-out sanctions against violators.

The US government has a long-standing commitment, through five successive administrations, to the conclusion of an effective treaty to prohibit the development, production, possession and transfer of chemical weapons, subject to on-site international verification. This treaty, the Chemical Weapons Convention, is now in an advanced stage of negotiation by the 40-nation Committee on Disarmament in Geneva. The present "rolling text" of the Convention is largely based on the US Draft Treaty presented in Geneva in August 1984 by then Vice-President George Bush. At the time, the Soviets and even some of our allies were not willing to accept the tough verification measures called for in the US Draft Treaty. But with the changing attitude of the Soviet Union to on-site verification, the US position has won out.

Negotiations on the remaining issues at Geneva could be completed within a year. Separately, there are bilateral issues of confidence between the US and the USSR that must be resolved before a Convention is signed. Further work is also needed on procedures for verification of compliance by on-site inspection. Overall, the prospects for successful conclusion of a Chemical Weapons Convention are good.

A Chemical Weapons Convention would send a powerful signal to the governments and peoples of the world, reinforcing the already widespread abhorrence of chemical weapons. It would create tough international verification procedures to deter violations and to provide more reliable and internationally credible information regarding both well-founded suspicions and erroneous allegations. A Chemical Weapons Convention would eliminate large stocks of Soviet chemical weapons that threaten Europe, when the value of US chemical weapons is severely limited by the strong reluctance of our NATO allies to integrate them into military planning and by the pervasiveness of modern anti-

chemical defenses deployed by the Soviets. Finally, a Chemical Weapons Convention would provide a uniform political and legal basis for sanctions against non-compliance.

Provisions for sanctions must meet a number of requirements, not all of them easily reconciled. First, there must be a reliable and credible basis for invoking them. By whom and how is it to be determined that an offence has occurred? Even determining whether or not chemical and biological weapons have been used can be difficult and controversial in certain circumstances, as experience has shown.

Second, the sanctions must impose a cost on the offender, not on the party doing the sanctioning. The value of sanctions in deterring violations must be balanced against their costs, in the present case to the US government and economy. Such costs could include undesirable limitations on the President's conduct of foreign relations and burdens on US industry and commerce.

These problems can be solved and useful sanctions can be devised, but wide consultation and great care in their design is essential to success.

A system of sanctions against the acquisition, possession and use of chemical and biological weapons will be maximally effective when it is joined to a global Chemical Weapons Convention with strong provisions for international verification.

I would welcome your questions.

The CHAIRMAN. Thank you very much, indeed. Dr. Carpenter.

STATEMENT OF DR. WILL D. CARPENTER, CHAIRMAN OF THE CHEMICAL MANUFACTURERS ASSOCIATION WORK GROUP ON CHEMICAL WEAPONS; VICE PRESIDENT, TECHNOLOGY, MONSANTO AGRICULTURAL CO., ST. LOUIS, MO

Dr. CARPENTER. Mr. Chairman, for the past 10 years I have represented CMA in its support of our Government's efforts to obtain

a comprehensive treaty to ban the use, production, and stockpiling of chemical weapons. CMA is pleased to be before your committee to submit its testimony on chemical weapons control.

The CHAIRMAN. CMA being?

Dr. CARPENTER. The Chemical Manufacturers Association. Senator, we represent about 95 percent of the chemical production capacity of the United States. CMA and its member companies strongly support efforts to conclude an effective treaty to ban chemical weapons and support efforts to prevent the proliferation of chemical weapons through its appropriate export control regulations. Our board of directors declared its commitment on a policy statement adopted in October 1987. A copy of that policy has been attached to my written testimony. I would like to give you a list of some of the activities of our organization over the last decade to give the committee an idea of our commitment and our contributions.

We meet with Government representatives on a monthly basis, representatives from the State Department, the Department of Defense, Joint Chiefs of Staff, the Arms Control and Disarmament Agency, the intelligence community, and Department of Energy. We have had plant tours of our facilities for Government representatives and have held seminars for them on the production and practices, marketing procedures and family trees of various groups of chemicals. We have participated in numerous international meetings dealing with this issue with the knowledge and encouragement of the various Government agencies.

We have initiated a dialog with European, Japanese, Canadian, and Australian chemical industry groups to address technical issues and to be mutually supportive of our respective government's efforts. These international industry groups now meet routinely two to three times a year. At the request of our negotiators, CMA representatives participated as technical experts in meetings held by the United Nations conference on disarmament in Geneva.

We have assembled our scientists to discuss with agency personnel such topics as analytical procedures, techniques such as automatic continuous area monitoring systems and procedures for monitoring shipments and production of chemicals.

Recently we arranged for a national trial inspection to be held by one of our member companies, Akzo Chemical Co., where government personnel carried out a trial inspection in order to prove the effectiveness of the inspection procedures necessary for treaty verification. We are now in the process of talking with other trade associations and professional groups that can bring resources to bear and will be impacted by the terms of a comprehensive treaty.

During the last year, our efforts have shifted toward increased emphasis on the proliferation problem and what industry can do to be of help. Our board of directors recently formed a high-level committee to provide the focus and emphasis to our efforts. There are a number of initiatives being taken by CMA and its member companies over the next several months. On the 25th of this month, we are holding a 1-day seminar for our member companies, other trade associations, and professional organizations to bring them up to speed on both the treaty status and the proliferation issue. This

seminar will be given by both my committee and Government representatives.

In June we are meeting with our colleagues from Europe, Japan, Canada, and Australia, followed by a United Nations conference on disarmament experts meeting. In September we will participate in a conference sponsored by the Australian Government in Canberra at the recommendations of the Arms Control and Disarmament Agency and the State Department. We have already been of assistance in the planning of this important meeting.

Although a chemical convention which effectively bans the manufacture and possession of chemical weapons is our goal, we recognize the need for appropriate interim measures to halt the spread of chemical arms until that treaty can be completed. Throughout this effort, however, CMA has cautioned against regulatory programs that unduly restrict the legitimate activities of U.S. industry. The conclusion of a multilateral ban on chemical weapons will necessarily require an intrusive verification procedure and perhaps some control measures that extend to the actual shipment and distribution of chemicals.

Yet, the United States should avoid unilateral export control regulations that would place American companies at a disadvantage in competing for legitimate sales with foreign manufacturers who do not face similar export controls. We believe that the focus of this hearing, the possible need for more stringent, nonproliferation measures, is as important as it is timely. The significant progress that is being made in the Geneva negotiations to establish a global ban on chemical weapons is coupled with regulatory changes that are currently under consideration in the United States, which will alter the basis for control of certain products. Of course, this legislation has been introduced to impose more stringent sanctions for violation of U.S. export control laws.

It is CMA's view that the legislation now before Congress would, if enacted, divert attention from what should be the principal policy objectives of the U.S. Government. We believe that more, much more, can be achieved through multilateral cooperation than through unilateral controls or threats of sanctions. The United States should not adopt measures that lead to the disagreements about national sovereignty and the extraterritorial reach of U.S. law. Our members for many years have maintained internal administrative systems to implement their export control obligations.

In the light of recent U.S. Government emphasis on chemical exports and the increased controls of certain countries, many companies have voluntarily taken action to enhance the effectiveness of U.S. Government programs designed to prevent the spread of chemical weapons. We have launched educational programs that will explain current control regime and suggest procedures and practices for achieving compliance. We expect that these types of programs will do much to enhance compliance and that they will be productive.

Our member companies are stressing the need for increased vigilance concerning attempted improper export transactions. CMA members are acquainting their personnel with the kind of information that raise suspicions about transactions and that require further inquiry and possible consultation with U.S. enforcement offi-

cials. This vigilance not only served to prevent diversion of chemical precursor systems, but its existence also deters those who might attempt such improper conduct. We will increase our cooperative efforts with enforcement officials and encourage our colleagues and other countries to accelerate their efforts.

To repeat, CMA strongly supports the efforts of this country to obtain a meaningful, verifiable treaty that is technically sound. For a treaty to be good enough that the security of this country is not in danger, there must be effective verification. There is no possibility of obtaining 100 percent assurance through any reasonable procedures. The cost of implementing such procedures and the resources required will not allow that. Further, the demands would bring a large segment of industry, not just the chemical industry, to a slow pace. So, it will be a tradeoff; on the one hand, what is possible from an economic and technical standpoint, on the other hand, what our national security requires.

A useful treaty with verification procedures to ensure compliance and security will have adverse impacts on our industry. We recognize the need for a valid treaty, and we also, therefore, accept that there will be a cost to industry. We think these losses can be minimized, however, while still achieving the goals of the committee. We think that this belief is shared by a large number of the negotiators. The same philosophy should hold true dealing with the proliferation issue.

The Chemical Manufacturers Association has recognized its responsibility in controlling chemical weapons proliferation. We actively support a global ban on weapons. We are working for complete implementation of domestic export controls, and we encourage multilateral action that involves the governments and industries of our major trading parties. CMA and its member companies are committed to assisting Congress and the administration in achieving the goal of an effective global ban on chemical weapons. Thank you.

[The statement and addendum of Dr. Carpenter follows:]

PREPARED STATEMENT OF DR. WILL CARPENTER

Good morning, My name is Will Carpenter, and I am Vice-President for Technology at the Monsanto Agriculture Company. I have had extensive experience in research and development, exports and related matters during my tenure at Monsanto. I have also been very involved in the efforts of the Chemical Manufacturers Association (CMA) to monitor domestic and international developments on chemical weapons issues.

CMA is pleased to present this testimony concerning legislation aimed at discouraging the production and use of chemical weapons (CW) and related equipment. CMA shares the Committee's desire that the proliferation of CW materials be brought under the control of an effective, multilateral regime.

CMA is a non-profit trade association whose member companies represent 90 percent of the productive capacity for basic industrial chemicals in the United States. CMA's members are manufacturers, exporters and importers of industrial chemicals, and consequently have an interest in proposed legal constraints which may affect their legitimate business activities.

CMA and its member companies are strongly opposed to the use of chemical weapons. We have actively supported the efforts of the United States government to negotiate a multilateral ban on chemical weapons. For a number of years, CMA's members have worked closely with U.S. officials on the technical issues relating to such a ban. CMA has also become very involved in domestic proliferation control efforts, such as providing assistance to enforcement officials charged with applying U.S. export control regulations. Our Association worked closely with both the Congress and the Drug Enforcement Administration in the development and ongoing implementation of the Chemical Diversion and Trafficking Act of 1988, which is aimed at preventing illegal drug manufacturing. The U.S. chemical industry has consistently sought to

prevent the potential diversion of legitimate chemical shipments to illegal purposes.

Throughout this effort, however, CMA has cautioned against regulatory programs that unduly restrict the legitimate activities of the U.S. industry. The conclusion of a multilateral ban on chemical weapons will necessarily require an intrusive system of verification, and perhaps some control measures that extend to the actual shipment and distribution of chemicals. Yet the United States should avoid unilateral export control regulations that place American companies at a disadvantage in competing for legitimate sales with foreign manufacturers who do not face similar export controls.

CMA believes that the focus of this hearing -- the possible need for more stringent non-proliferation measures -- is as important as it is timely. Significant progress is being marked in the Geneva negotiations to establish a global ban on chemical weapons. Regulatory changes are currently under consideration in the United States which will alter the basis for controls on certain exports. And in response to recent reports of diversions of certain chemical shipments, legislation has been introduced in both the House and the Senate to impose more stringent sanctions for violations of the U.S. export control laws.

Although our testimony focuses on the legislative proposals, we want to provide some useful background on CMA's activities in both the domestic and international non-proliferation effort. We also detail some of the steps CMA and its members have voluntarily initiated to promote compliance with current U.S. export control programs.

II. SUMMARY OF CMA POSITION

CMA's member companies fully support President Bush's stated intention to achieve a "complete and total ban on chemical weapons." The existing system of U.S. export controls on materials having CW

applications is a comprehensive program, constituting the single most restrictive national control system now in effect. Although some fine-tuning of the U.S. system may be needed, CMA is convinced that a more restrictive U.S. regime would help prevent the further proliferation of CW materials only if all countries with significant potential CW manufacturing capabilities participate in the new restrictions. New unilateral or more extensive sanctions for violations of the U.S. export control laws are not likely to have any positive effect on CW proliferation.

The essential aspect about chemical weapons that must be understood by policymakers at the national and international levels is that the technology is relatively unsophisticated. It is virtually impossible to identify equipment which is specifically designed or modified to be capable of chemical weapons manufacturing. Any nation with the technical resources needed to manufacture fertilizers, pesticides, or pharmaceuticals can, given the political will, probably achieve a CW capability.

Legislation pending in the Senate would attempt to sanction other governments that permit their business enterprises to export precursor chemicals to countries believed to be engaged in chemicals weapons manufacture. The legislation would also attempt to impose sanctions on foreign business enterprises. One bill, S. 238, would suspend the patent rights of persons found to illegally transfer chemical or biological weapons agents. In CMA's view, expanding the range of sanctions for violations of U.S. law will prove ineffective, and may cause serious political friction with U.S. allies. In such case, the legislation could actually hamper international control efforts.

If Congress is determined to consider additional export controls on CW materials, outside the context of the upcoming debate on reauthorization of the Export Administration Act, particular attention should be paid to the scope and effect of such legislation. For example, the Geneva negotiators have effectively rejected the concept

of "super-toxic" chemicals as a class of materials for control under the proposed treaty. Nevertheless, the term appears in at least one proposal introduced in the Senate. Loosely drawn licensing and waiver requirements suggested in some proposals may have significant adverse competitive effects. The international trade in dual purpose percursor materials is unlikely to be curtailed in any significant respect by the imposition of more extensive U.S. export controls.

Indeed, it is CMA's view that the legislation now before the Congress would, if enacted, divert attention from what should be the principal policy objective of the U.S. government. We believe that more -- much more -- can be achieved through multilateral cooperation than unilateral controls or threats of sanctions. The United States should not adopt measures that will lead inevitably to disagreements about national sovereignty and the extraterritorial reach of U.S. law. As the House Committee on Science, Space and Technology recently concluded in its review of U.S. export controls,

> . . . disparities between the U.S. and other nations in the enforcement, compliance, and interpretation of export controls have placed U.S. industries at a competitive disadvantage with respect to foreign producers. As a result, the central issue is the pursuit of ways for enhancing international cooperation for a strengthened multilateral export control system.
>
> The need to remove these disparities, combined with the recognition of the global economy within which U.S. industries compete, requires a strong and uniformly-administered multinational export control system. Hence, the U.S. must place priority on developing and supporting an effective multilateral control system. Committee Print, 101st Cong., 1st Sess, Serial A at 1 (Feb. 1989).

CMA and its member companies are committed to assisting Congress and the Administration in achieving the goal of an effective global ban on chemical weapons.

III. CHEMICAL EXPORTS AND EXISTING CONTROLS

It is critical to understand the role of chemicals in this Nation's overall trade picture. In 1988 our industry accounted for more than $12 billion in trade surplus, a significant contribution to

the overall international competitiveness of the United States. Shipments of chemicals and allied products in that year amounted to $239.7 billion, of which 13.5 percent were exports. To CMA's knowledge virtually all of those exports were conducted strictly in accordance with U.S. laws and regulations.

For many years, the Department of State and the Department of Commerce have imposed export controls on chemicals and products capable of being used in the manufacture of weapons. As far as CMA is aware, there are few problems regarding the comprehensiveness of these regulatory regimes. To our knowledge, the controls have generally not posed difficult interpretative issues for the U.S. industry, except possibly the technical data area. Given the existence of this reasonably well-designed regulatory regime, we doubt that there are many serious problems of potential diversions to proscribed destinations.

In addition to the lengthy list of chemicals controlled under the International Traffic in Arms Regulations, the Department of Commerce recently enhanced the scope of U.S. export controls under the Export Administration Regulations. These controls include specific licensing requirements and prohibitions for shipments to particular destinations, harmonization of controls with NATO and other Western allies, and implementation of changes resulting from enactment of the Omnibus Trade and Competitiveness Act of 1988. The purpose of these regulations are, in large part, to limit enhancement of the chemical weapons capability of specific countries, such as Libya, Iran, Iraq, and Syria.

Controls on shipments of precursor and essential chemicals used in the manufacture of illegal drugs are parallel to those on CW related materials. CMA urged Congress to enact the Chemical Diversion and Trafficking Act of 1988 (CDTA), which establishes customer identification, recordkeeping, reporting and notification requirements relating to the distribution, import and export of certain chemicals, tableting and encapsulating machines utilized in the manufacture of

controlled substances. In January and early February 1989, the Drug Enforcement Administration proposed regulations to implement the new statute. The Act is yet another component of the multiple regulatory regimes with which CMA members must comply.

CMA fully supported the CDTA and opposes the diversion of chemicals to illegitimate drug production. On March 27, CMA submitted comprehensive comments to DEA concerning the proposed regulations. CMA supported the regulations authorized by the statute and suggested changes to proposed requirements that would not contribute to Congress' objective in regulating these shipments.

Generally, violations of the existing export control system are punishable by both civil and criminal sanctions. In fiscal year 1987, the Department of Commerce completed nearly 200 investigations, referred 7 cases to the Department of Justice for criminal prosecution, imposed administrative penalties of over $650,000, denied export rights to 34 parties, and issued 73 warning letters. Willful and knowing violations of the export control regimes are considered criminal acts and may result in fines of up to $1 million, 5 times the value of the exports in question, or twice the illegal financial gain. Individuals face maximum criminal sentences of 10 years in prison.

Available civil penalties include the denial of export privileges. Violations of the Export Administration Regulations are punishable by fines of $100,000 where national security controls are involved, and $10,000 where other controls are involved. Violations of the International Trade in Arms Regulations are punishable by forfeiture of the goods and fines of up to $500,000.

Individuals or corporations found to violate the regulations may also incur costs for the management time, legal fees, adverse publicity, and problems in license processing, cooperation with governmental officials, and shipping. These costs are, of course, in addition to those imposed by an investigation or penalty.

CMA believes that the primary purpose of the sanctions imposed

under existing U.S. export control regulations is to deter illegal activity. Yet in view of the ease with which CW agents can be manufactured, the worldwide availability of the technical equipment required for such production, and the level of sanctions now in place, it is difficult to imagine how much more of a deterrent can actually be imposed. Moreover, it is useful to look at the record of past violations as a gauge for the need -- and the efficacy -- of additional controls.

Few violations have involved U.S. chemical companies. In CMA's view most U.S. companies would avoid the "quick profit" that might be available in a sale destined for CW uses. Most importantly, the extent to which CMA member companies already have extensive export control systems in place is telling evidence that the current regime works.

IV. U.S. CHEMICAL WEAPONS CONTROL PROPOSALS

To date, a number of bills have been introduced in both the House and the Senate to further restrict the proliferation of chemical and biological weapons. CMA's testimony will focus on aspects of three of those bills, S. 8 (Sen. Dole), S. 195 (Sen. Pell), and S. 238 (Sen. Helms). In CMA's view, these legislative proposals do not adequately balance the need to promote a multilateral control regime and the competitive needs of U.S. industry, in attempting to restrain the transfer of CW materials.

The three Senate proposals would control a list of chemicals, biological materials, equipment and technical data which could assist in the production and delivery of chemical weapons. Under the Dole and Helms bills, the Executive Branch would develop the list (presumably with the advice of private industry, although such advice is not required to be sought). The proposals would prohibit the shipment of any item on the list to Iran, Iraq, Syria, Libya or other country determined to be pursuing or expanding a CW capability. Mandatory

sanctions would be imposed against countries using chemical or biological agents in violation of international law, or companies who act in violation of U.S. law. Sanctions would apply to the entity violating the law, as well as affiliated companies of the entity conducting the illegal activity.

Limited waivers or exceptions are available under all three bills. Under the proposals submitted by Senators Dole and Helms, comprehensive reports on foreign efforts to acquire CW capability and an assessment of that capability would be prepared. The reports would include lists of each company, foreign or domestic, which has aided or abetted an effort to acquire or enhance a CW capability. Senator Dole's legislation would apply to chemical and biological weapons, including chemicals defined as "super-toxic lethal chemicals." The latter, while not defined in greater detail, is apparently a reference to the proposed Schedule IV chemicals referred to in the latest draft treaty being negotiated in Geneva. It should be noted that the Schedule IV concept has fallen out of favor in the Geneva conference.

CMA's primary concern with the proposals is that the effort to extend sanctions will prove ineffective. Although we cannot comment on the question of whether sanctions can be imposed on persons not subject to the jurisdiction of the United States, the application of sanctions to any related entity of the violator appears broad and over-inclusive. In CMA's view, the application of sanctions should be limited to the person or entity committing the prohibited act. Any penalties applied to affiliated entities should be limited to those situations necessary to avoid evasion of the export proscriptions.

The proposed suspension of patent rights will be difficult to administer. It is unlikely that those violating the law would be the patent holder. Some U.S. patent rights on chemical weapons related technology are even held by scientists employed by the U.S. government. Moreover, using the U.S. patent system to enforce restrictions on the transfer of certain materials will undermine the

protections provided under the patent laws and may well adversely affect our international negotiating position.

CMA is also concerned that the list of materials subject to control will be developed without the input of the industry. Such private sector advice would be particularly useful in determining the foreign availability of particular products, and thus the overall efficacy of a proposed control.

Other aspects of these proposals also merit careful consideration, although CMA will not comment on them directly here. Rather, we look forward to a continuing dialogue with the Committee as legislation is considered.

Again, in CMA's view the existing export control system works well. Some fine-tuning -- such as clarification of the existing controls governing technical data -- may be necessary, but extensive changes are not required. CMA strongly believes that action on a multilateral basis, first with our Western Allies and then with others, is more likely to provide positive restraints on CW proliferation.

V. Geneva Negotiations on a Global Chemical Weapons Ban

As stated earlier, CMA has strongly supported the negotiation of a treaty banning the production and possession of chemical weapons. Our Association has worked for over ten years with the United States Government on such a treaty and related issues. Our cooperative effort and internal Association policies are coordinated through the Chemical Weapons Work Group, which I chair. This Work Group has met regularly with officials from all the agencies involved in the ongoing Geneva negotiations, including the Arms Control and Disarmament Agency, the Departments of Defense, State and Energy, the Joint Chiefs of Staff, and the intelligence community.

CMA has also cooperated in this activity with the trade associations that represent chemical manufacturers in other nations. These include: the European Federation of Chemical Manufacturing Associations (CEFIC), representing 17 national trade associations; the

Japanese Chemical Industry Association (JCIA); the Canadian Chemical producers Association (CCPA); and the Australian Chemical Industry Council (ACIC).

There are several important issues being considered in the context of the proposed treaty. For example, our members are concerned about the protection of proprietary information under the proposed treaty regime. Our Work Group has also expressed reservations about the effectiveness, intrusiveness and high cost of any routine inspection system for facilities that manufacture and use percursors to chemical weapons agents. We have suggested effective methods for verifying treaty compliance and have helped the government test those methods during the recent National Trial Inspection. In addition, our members have opposed extending the proposed reporting and inspection requirements under a chemical weapons treaty to plants "capable" of producing "super-toxic" chemicals. This extension would vastly increase the universe of facilities subject to the treaty and would greatly raise the verification cost with little gain in achieving the treaty's objectives. These cautions about potential overregulation arise equally in considering the appropriate level of export controls for chemicals and related technical data and production equipment.

Finally, CMA has been asked to participate in the joint government-industry conference on CW control issues, to be hosted by the Government of Australia in September of this year. CMA looks forward to the conference as a multilateral effort to reaffirm and broaden the commitments achieved during the recent Paris Conference.

VI. CMA Action and Future Steps Contributing to More Effective Export Control Implementation

CMA members have for many years maintained internal administrative systems to implement their export control obligations ranging from classifying products to determine the level of controls to applying for validated export licenses. In light of the recent U.S. government

emphasis on chemical exports and the increased controls to certain countries, many companies have voluntarily taken action to enhance the effectiveness of the U.S. governmental programs designed to prevent the spread of chemical weapons. We briefly describe these additional steps here and would be happy to respond to questions concerning them. We are also planning additional measures which we outline here.

a. Industry Educational Programs

A strong consensus exists within our industry on the importance of enforcing the existing controls designed to prevent chemical weapons proliferation. Some member companies and their personnel are facing the increased attention that inevitably results from an increased level of controls and heightened public concern, particularly given the recent events in Iraq and Libya.

For these reasons, we have initiated and encouraged our members to carry out educational programs that will explain the current control regime and suggest procedures and practices for achieving compliance in companies. We involve both technical and legal exerts in these programs. Such educational efforts may lead to modifications in the procedures and practices that U.S. companies apply in implementing their export control programs. As already noted, many CMA member companies already have comprehensive compliance programs in place. We expect that these types of programs will do much to enhance compliance and that they are more productive than threats of additional sanctions.

b. Increased Vigilance against Attempted Improper Export Transactions

Our member companies are stressing to their personnel the need for increased vigilance concerning attempted improper export transactions. Thus, CMA members are acquainting their employees with the kinds of information that raise suspicions about transactions and that require further inquiry and possibly consultation with U.S enforcement officials as well as advice from legal counsel. This vigilance not

c.ly serves to prevent diversion of precursor chemicals but its existence also deters those who might attempt such improper conduct.

c. CMA to Serve as Clearing House in Supplying Export Control Information for Member Companies

Because of CMA's dealings with the responsible U.S. government agencies, CMA performs the function of a clearing house for information that may assist member companies in achieving export control compliance. Thus, we are regularly informing our members of developments in Washington ranging from proposed regulatory changes to potential diversion threats. Our staff and counsel are available to assist with in-company programs by providing materials and, in appropriate cases, taking part in educational sessions.

d. Assistance to U.S. Government Enforcement Officials in Identifying Potential Diversion Situations

Our members recognize that the U.S. Government has limited resources available for attempting to detect and stop attempts at diverting U.S.-origin chemicals to weapons manufacture. For that reason, CMA has established a dialogue with enforcement officials in the U.S. Government. Our members are aware of this communications link and will utilize it from time to time in alerting U.S. Government officials to potential problems. CMA members are prepared to explore, if necessary, a means for making this channel somewhat more formal. However, we are not certain that this is necessary given the high degree of industry-government cooperation that already exists.

e. International Industry Cooperation in Preventing Diversion and Encouraging Education

As previously noted, CMA works closely with its counterpart organizations in Western Europe, Canada, Australia and Japan. We have begun to encourage those organizations and their members to initiate educational programs along the lines of those which we have undertaken in the United States. We expect to continue our cooperative efforts with a view to establishing inter-organizational programs that will promote compliance and discourage attempted diversions.

V. Conclusion

The former Australian Ambassador to the United States, Rawdon Dalrymple, has concisely stated the positive developments and continuing concerns in the CW debate:

> . . . one outcome of the coordination work on the chemical weapons convention and export controls has been to stimulate dialogue between governments and within countries, which is part of the long process of building and reinforcing political norms. But the spread of chemical weapons is an urgent problem. Some would claim that export controls have not been a success -- just look at Libya. To which we respond that the very nature of chemicals and the chemical industry -- the ease with which mustard gas can be made, for instance -- mean that legislative controls cannot and should not be a substitute for responsibility. Responsibility, that is, based on self-interest in realizing that chemical warfare is a game in which there are no winners in the long term.

The Chemical Manufacturers Association has recognized its responsibility in controlling chemical weapons proliferation. We actively support a global ban on weapons. We are working for complete implementation of domestic export controls. And we encourage multilateral action that involves the governments and industries of our major trading partners. Competitive and legitimate business concerns can be addressed in an effective global system for restricting chemicals weapons production, proliferation and use.

ADDENDA

- Policy elements approved by CMA Board of Directors, 10/27/87.
- CMA press release, 4/28/89.
- "For Illicit Chemical Arms, No Easy Remedies Seen," Chemicalweek, 1/18/89.
- Letter to R. Roland, CMA, from Amb. Max Friedersdorf (with statement), 8/1/88.
- "CMA's Olson Unravels Intricacies of Verifying a Chemical Arms Treaty," Chemical and Engineering News, 4/24/89.
- "The Proposed Chemical Weapons Convention: An Industry Perspective," Chemical Weapons Convention Bulletin, Autumn, 1988.
- Letter to B. Brady, AKZO, from Gen. Howard Eggelston, U.S. Army, 3/8/89.
- Letter to B. Brady, AKZO, from Robert Mikulak, U.S. Arms Control and Disarmament Agency, 3/2/89.
- Letter to L. Whittaker, AKZO, from Amb. Lynn Hansen, U.S. Arms Control and Disarmament Agency, 10/24/89.

- o "Plant Inspections To Pave Way For Chemical Arms Treaty Monitoring," Chemical & Engineering News, 3/6/89.
- o "Procedures Tested For A Chemical Arms Ban," New York Times, 3/8/89.
- o Remarks of Dr. Will Carpenter to the American Association for the Advancement of Science, 1/16/89.

CHEMICAL WEAPONS BAN TREATY

Objective

To identify an official CMA position on the proposed chemical weapons disarmament treaty as a basis for further advocacy.

Background

Multilateral negotiations are progressing rapidly on a treaty that would ban the production of chemical weapons agents. The optimism among the 40 nations participating in the talks is primarily driven by unprecedented demonstrations of Soviet flexibility. Some elements of the draft treaty are generally accepted by all participating nations. These elements include:

- o Prohibiting the manufacture of Schedule I chemicals (those primarily used as weapons).
- o Establishing reporting requirements for facilities manufacturing or using Schedule II chemicals (those which could be used as precursors to weapon agents). Such plants would be subject to routine on-site verification inspections by teams reporting to an international authority.
- o Identifying plants which manufacture or use some large volume toxic commercial chemicals (Schedule III) which have the potential for conversion to weapons agents. Such plants would be subject to routine reporting requirements.
- o The right to "challenge" inspections of any facility upon demand by a signatory nation.

CMA, through its Chemical Weapons Disarmament Work Group, has provided the U.S. Negotiating Team with comments on technical issues of the treaty for several years. The CMA Work Group believes several treaty areas demand further attention:

- o Confidentiality - Though the treaty offers assurances that proprietary information will be protected, details remain sketchy at best.
- o Inspection Protocols - Industry experts have advised U.S. negotiators that a routine inspection system for Schedule II chemicals will be subject to considerable margins of error. U.S. negotiators have also been told that to achieve incremental reductions in that margin will be costly and require extremely intrusive procedures. The prevailing American government opinion appears to be that, given geo-political and military realities, a 100%

reliable routine verfication system may not be necessary if backed up by "challenge" inspections.

- o Scope - A proposal has been made by certain nations to extend reporting and inspection requirements to all plants "capable" of producing "super-toxic" chemicals. This would vastly expand the universe of targeted facilities, with attendant increases in verification cost and plant intrusions. The CMA Work Group strongly believes such an extension is ill-conceived and nonproductive and has so advised the U.S. negotiators.

Recommendations

1. The Chemical Manufacturers Association should aggressively declare its strong support for a treaty to ban chemical weapons.

2. CMA should urge the U.S. Government to effectively protect confidential commercial and proprietary information under the treaty.

3. CMA should strongly advise the U.S. Government that expansion of the scope of the treaty beyond Schedule III would be ill-advised and counterproductive.

4. CMA should continue to work with U.S. negotiators to develop the least disruptive inspection protocols consistent with this nation's security needs. In this regard, CMA should advise the U.S. Government that it believes a fool-proof routine verification system to be technically infeasible.

5. CMA should promote a consensus on the treaty with chemical industry associations internationally.

Action Required

Approval of recommendations.

(Note: Copies of the Draft Treaty, including the various chemical schedules, are available from CMA. Contact Mr. Kyle B. Olson (202) 887-1275.)

For Immediate Release

Contact: Jeffrey C. Van
(202) 887-1222

WASHINGTON, D.C. (April 28)--The Chemical Manufacturers Association called today for a "strong, effective international treaty" to ban the use of chemical weapons.

CMA President Robert A. Roland said American, Japanese and European chemical industry representatives have been working for several months on a set of recommendations "we believe can facilitate international agreement on a new chemical weapons ban treaty."

He said the representatives met recently in Zurich and are close to reaching "a consensus on a number of technical issues involved in the on-going multinational treaty negotiations." When the recommendations are agreed to, Roland said, "they will be sent to negotiators along with our industries' pledge to do whatever we can to make such a treaty effective."

There already is a high level of agreement among the participating industry groups, Roland said, on data reporting, inspection procedures and protection of confidential business information. Other issues under study by the groups include the scope of materials to be included in the treaty, the most appropriate monitoring devices and the skills needed by the international agency that would be formed to police the treaty. The industry groups are planning to continue meeting in an effort to help bring about the treaty.

"The papers will reflect both the technical expertise of the worldwide chemical industry and its desire to help bring about the elimination of all chemical weapons," Roland said.

CMA's Board of Directors recently declared its strong support for the chemical weapons treaty and urged that the chemical industries of all nations work toward consensus on the technical issues.

FOR ILLICIT CHEMICAL ARMS, NO EASY REMEDIES SEEN

After balking at U.S. allegations that West German companies helped construct a Libyan chemical weapons plant, the West German government abruptly changed its tune. Last week, Chancellor Helmut Kohl said investigators had found evidence supporting those allegations, and were launching further probes. The news underscored the fragility of the world's balance of power. But even as delegates to last week's Paris Conference on the Prohibition of Chemical Weapons re-ratified the 1925 Geneva protocol that bans use of such armaments, chemical industry officials expressed concerns about balances of trade and industry secrets.

Common chemicals that could be used to make weapons:

- Phosgene
- Cyanogen chloride
- Hydrogen cyanide
- Trichloronitromethane (chloropicrin)
- Phosphorus oxychloride
- Phosphorus trichloride
- Di- and trimethyl/ethyl esters of phosphorous acid:
  - Trimethyl phosphite
  - Triethyl phosphite
  - Dimethyl phosphite
  - Diethyl phosphite
- Sulphur monochloride
- Sulphur dichloride

Source: U.S. Arms Control and Disarmament Agency

While industry associations strongly support ongoing efforts by the U.N. Conference on Disarmament (Geneva) to draw up an international treaty curtailing chemical-agent use and production, they are nonetheless concerned. Such controls could, they worry, erect bureaucratic barriers to the production of toxic chemicals for peaceful use.

"That's just what we're trying to avoid," said a British delegate to the Paris conference. "We want a ban on weapons, not on toxic chemicals as such."

But distinguishing legitimate uses from weapons uses is an enormous task. Many chemicals used in normal commercial processes can also be key ingredients or precursors for producing chemical weapons.

Hydrogen cyanide, for instance, is produced in enormous quantities for use in mining and in the production of methyl methacrylate. It is also, however, the substance that the British delegate and many other experts believe the Iraqis used to devastate their own Kurdish population last year. And the Nazis used it in their gas chambers.

Phosphorus oxychloride, for example, is used in pesticide and hydraulic fluid production and to make the nerve gas Tabun. Phosgene, toxic in its own right, was used as a poison gas in World War I, but is also used in the manufacture of urethanes.

In an attempt to deal with that thorny problem, the Geneva negotiators have come up with a definition for the target of any ban on chemicals. That definition says the product must be toxic, intended for use in a weapon, or be a component of one.

Carpenter: some damage inevitable.

That means there must be strict verification, says a U.S. State Department official who was also a Paris delegate. "It means the chemical industry has to 'police itself."

That point has already been conceded by industry representatives. Attendees of the Geneva meetings say that in addition to worldwide chemical-weapons prohibitions and additional recordkeeping requirements for manufacturers of related ingredients

(*see table p. 12*), negotiators also want to impose "challenge inspections" of facilities suspected of being the site of weapons production. These inspections would be performed by an international team of experts.

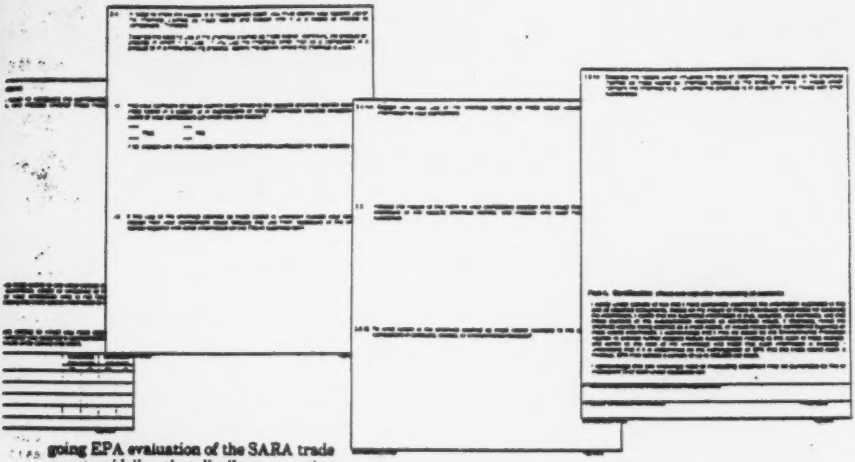
Indeed, says Kyle B. Olson, a staff member at the Chemical Manufacturers Assoc., "There's no way to effectively verify the process without being exposed to the nuts and bolts of the process."

That's what makes industry executives nervous, although they're realizing there's no other way to go about it. "We know you can't have a treaty without some potential damage to industry," says Will D. Carpenter, vice president of technology for Monsanto Agricultural Chemical Co. He led a team of industry experts at Geneva.

Industry leaders are, however, trying to minimize that damage in terms of loss of intellectual property and trade secrets that might be obvious to an expert on an inspection. The worst-case scenario, says Olson, is that an expert could conceivably "steal the secrets of Du Pont or Monsanto and then go out and sell the information to the highest bidder."

Meanwhile, negotiators at the Geneva conference try to hammer out an agreement that is wary of industry's concerns, yet is still effective. But one delegate close to the Geneva sessions says agreement on verification procedures is "a real stumbling block." Because of that, he adds, he doesn't expect to see an agreement come out of Geneva "before 1991 at the earliest."

ELLEN GOLDBAUM, John Laurenson in Paris, and Burton Bollag in Geneva



going EPA evaluation of the SARA trade secret guideline that disallows reporting exemptions if similarly disallowed in other statutes. "The Clean Water Act and the Clean Air Act both disallow trade secret exemptions," says Debbie Sheiman, resource specialist for the National Resources Defense Council, Washington. NRDC and other environmental groups all pressed this point during EPA's trade secret rulemaking.

The agency's position is that Congress probably intended to prevent companies from using trade secret claims for information which was already in the possession of a state or federal agency. In other words, if other statutes already demanded the information, it would not be eligible for trade secret status.

The EPA is still hammering out one issue: is Clean Water Act and Clean Air Act emissions data the same as Title III's emissions data? To date, the agency has taken up this issue on a case-by-case basis. But EPA is working towards a class determination rule that would immediately place reporting data into one category or the other.

"It's an extremely complex issue," says Debbie Horn, the attorney in EPA's office of general council who directed the writing of the final trade secret rule. "I've never seen anything like it," she adds. "It's purely a statutory construction."

A statutory construction involves a combination of statutes; the NRDC, explains lawyer O'Reilly, would like a construction that says all "potentials" are "actuals," or all emissions data is *a priori* effluent data, "but not every potential is real."

This is an "arcane problem," says EPA's Fogerty. "The NRDC argues that all emissions data is self-executing, but EPA argues that it's not. Emissions and effluents are terms of art, and they don't apply to every belching of pollution."

It is impossible to say when EPA will issue a rule to clarify this issue, EPA's Fogerty says, "but it'll take a long, long time. A lot of [EPA departments] are involved and the wheels are grinding slowly."

Will a clarification of the issue, however, sharply limit the eligibility of emissions data for trade secret status? "It'll have an impact," he believes. But 3M's Ewert feels more strongly, stating, 'it would be like deprivation of private property without due process, or like taking away the 5th Amendment against self-incrimination. What business is it of government to equalize the differences between competitors?" CBI

SARA's SECRETS

Rules of the Road

1. "That such person has not disclosed the information to any other person other than a member of a local emergency planning committee, an officer or employee of the United States or a State or local government, an employee of such person, or a person who is bound by a confidentiality agreement, and such person has taken reasonable measures to protect the confidentiality of such information and intends to continue to take such measures."

2. "That the information is not required to be disclosed, or otherwise made available, to the public under any other Federal or State Law."

3. "That disclosure of the information is likely to cause substantial harm to the competitive position of such person."

4. "That the chemical identity is not readily discoverable through reverse engineering."

August 1, 1988

Mr. Robert Roland
President
Chemical Manufacturers' Association
2501 M Street, N.W.
Washington, D.C. 20037
U.S.A.

Dear Mr. Roland:

I want you to know how much I appreciate the support CMA has been giving to United States efforts to achieve a comprehensive, effectively verifiable, and truly global ban on chemical weapons.

The chemical industry has an important role to play in the negotiating process. Negotiators and policy-makers need to have a clear understanding of industry's concerns and of the realities of chemical production. The CMA's Chemical Weapons Arms Control Working Group has been invaluable in this regard.

Last week we were delighted to have four American industry representatives -- Will Carpenter (Monsanto), Leo Zeftel (Dupont), Oran Ritter (Ethyll), and Kyle Olson (CMA) -- with us here. They participated in informal discussions among industry experts and neogotiators from a wide variety of delegations. The serious and constructive contributions that they made have left a very positive impression, both about American industry and about the United States.

On July 28, I made a plenary statement which touched upon the industry experts meetings and quotes from your April 28 statement on the negotiations. I have enclosed a copy for your information.

Sincerely,

Max L. Friedersdorf

Max L. Friedersdorf

STATEMENT BY AMBASSADOR MAX L. FRIEDERSDORF
UNITED STATES REPRESENTATIVE TO THE
CONFERENCE ON DISARMAMENT

MR. PRESIDENT:

AS THIS IS THE FIRST OPPORTUNITY THAT I HAVE HAD TO MAKE A PREPARED STATEMENT THIS MONTH, PERMIT ME TO BEGIN BY CONGRATULATING YOU AND THE DELEGATION OF INDIA FOR YOUR

OUTSTANDING STEWARDSHIP OF THE CONFERENCE DURING THE MONTH OF JULY.

OUR DELEGATION ALSO EXTENDS ITS BEST WISHES TO THOSE OTHER REPRESENTATIVES WHO ARE LEAVING US OR HAVE RECENTLY DEPARTED: AMBASSADOR AHMAD OF PAKISTAN, WHO WORKED SO LONG AND PATIENTLY HERE IN GENEVA AND DURING THE THIRD SPECIAL SESSION OF THE UN GENERAL ASSEMBLY DEVOTED TO DISARMAMENT; AMBASSADOR TELLALOV OF BULGARIA; AMBASSADOR U TIN TUN OF BURMA; AMBASSADOR MEISZTER OF HUNGARY, WHO DID SUCH A FINE JOB AS OUR PRESIDENT IN APRIL; AND AMBASSADOR TARMIDZI OF INDONESIA. AND WE WELCOME AND PLEDGE OUR COOPERATION TO THOSE NEW REPRESENTATIVES TO THIS BODY: AMBASSADOR KOSTOV OF BULGARIA, AMBASSADOR LOEIS OF INDONESIA, AMBASSADOR RUORO OF KENYA, AND AMBASSADOR DE RIVERO OF PERU.

MR. PRESIDENT, I WOULD LIKE TO BEGIN TODAY BY INTRODUCING DOCUMENT NUMBER CD/839, WHICH CONTAINS THE TEXTS OF A STATEMENT BY PRESIDENT REAGAN, AND OF A STATEMENT BY THE ASSISTANT TO THE PRESIDENT FOR PRESS RELATIONS, ON THE OCCASION OF THE TWENTIETH ANNIVERSARY OF THE OPENING FOR SIGNATURE OF THE TREATY ON THE NON-PROLIFERATION OF NUCLEAR WEAPONS. THESE TWO STATEMENTS ATTEST TO THE GREAT IMPORTANCE THE UNITED STATES ATTACHES TO STRENGTHENING INTERNATIONAL PEACE AND STABILITY THROUGH THE PREVENTION OF ANY FURTHER SPREAD OF NUCLEAR WEAPONS. AS PRESIDENT REAGAN NOTES IN HIS STATEMENT, "THE NON-PROLIFERATION TREATY IS ONE OF THE INTERNATIONAL COMMUNITY'S MOST VITAL INSTRUMENTS" FOR DOING JUST THIS.

THE UNITED STATES HAS BEEN MAKING CONCERTED EFFORTS TO REDUCE THE RISK OF NUCLEAR WAR, AND TO MEET THE OBJECTIVES

OF THE NON-PROLIFERATION TREATY, IN PARTICULAR UNDER ARTICLE VI, THROUGH ITS NEGOTIATION OF THE INF TREATY, NOW SUCCESSFULLY CONCLUDED, AND ON A FIFTY PERCENT REDUCTION IN THE STRATEGIC ARSENALS OF THE UNITED STATES AND THE SOVIET UNION. THE UNITED STATES CALLS ON ALL OTHER NATIONS TO DO THEIR PART, BY ADHERING TO THE NPT TREATY IF THEY HAVE NOT YET DONE SO, AND, IF THEY ARE ALREADY PARTIES, BY REDEDICATION TO ACHIEVING THE OBJECTIVES OF THE TREATY.

I ALSO WANT TO INTRODUCE, IN PARALLEL WITH THE DELEGATION OF THE SOVIET UNION, TWO ADDITIONAL DOCUMENTS IMPORTANT FOR OUR WORK HERE IN THIS CONFERENCE. THE FIRST IS THE JOINT STATEMENT BETWEEN THE UNITED STATES AND THE UNION OF SOVIET SOCIALIST REPUBLICS, ISSUED FOLLOWING THE SUMMIT MEETING OF PRESIDENT REAGAN AND GENERAL SECRETARY GORBACHEV IN MOSCOW MAY 29 - JUNE 1, 1988, WHICH HAS BEEN ISSUED AS DOCUMENT CD/846. THIS JOINT STATEMENT DEALS AT LENGTH WITH ARMS CONTROL ISSUES, INCLUDING THE NUCLEAR AND SPACE TALKS, AND CHEMICAL WEAPONS ISSUES, ABOUT WHICH I SHALL HAVE MORE TO SAY SHORTLY. THE STATEMENT ALSO RECORDS THE EXCHANGE OF INSTRUMENTS OF RATIFICATION OF THE INF TREATY, AN EVENT OF GREAT HISTORICAL SIGNIFICANCE FOR ALL OF US, AS IT MARKS THE FIRST TIME THAT REAL NUCLEAR DISARMAMENT, INVOLVING THE ELIMINATION OF AN ENTIRE CLASS OF UNITED STATES AND SOVIET NUCLEAR ARMS, IS TAKING PLACE. THE FAR-REACHING INSPECTION PROVISIONS OF THAT TREATY ARE NOW BEING IMPLEMENTED.

THE SECOND DOCUMENT, CD/847, IS THE AGREEMENT BETWEEN THE UNITED STATES AND THE SOVIET UNION ON NOTIFICATIONS OF LAUNCHES OF INTERCONTINENTAL BALLISTIC MISSILES AND SUBMARINE-LAUNCHED BALLISTIC MISSILES, SIGNED AT MOSCOW ON JUNE 1, 1988. THIS AGREEMENT IS THE LATEST STEP TAKEN BY THE

TWO GOVERNMENTS DESIGNED TO REDUCE THE RISK OF INITIATION OF NUCLEAR WAR BY MISCALCULATION, MISINTERPRETATION OR ACCIDENT. I HOPE TO HAVE MORE TO SAY AT A LATER POINT THIS SUMMER ABOUT A NUMBER OF THE ARMS CONTROL ISSUES ADDRESSED IN THE JOINT STATEMENT, AND ABOUT THE LAUNCH NOTIFICATION AGREEMENT.

MR PRESIDENT, AT THE CLOSE OF THE SPRING PART OF THE CD SESSION, I DEVOTED TWO PLENARY STATEMENTS TO THE STATUS OF THE CHEMICAL WEAPONS NEGOTIATIONS. ON APRIL 14, I COMMENTED ON WHAT HAD BEEN ACHIEVED SO FAR DURING THE 1988 SESSION. MY STATEMENT ON APRIL 19 LOOKED AHEAD TO THE SUMMER PART OF THIS YEAR'S SESSION.

TODAY I WOULD LIKE TO RETURN TO THE IMPORTANT SUBJECT OF THE PROHIBITION OF CHEMICAL WEAPONS. A LOT HAS HAPPENED SINCE I LAST ADDRESSED THE CONFERENCE ON THIS SUBJECT.

ON SEVERAL OCCASIONS DURING THE LAST FEW MONTHS, A BAN ON CHEMICAL WEAPONS HAS BEEN ADDRESSED AT A HIGH LEVEL BILATERALLY BY THE UNITED STATES AND THE SOVIET UNION. AS I HAVE ALREADY NOTED, THE LEADERS OF THE UNITED STATES AND THE SOVIET UNION HAVE HELD IMPORTANT AND WIDE-RANGING DISCUSSIONS OF ARMS CONTROL ISSUES, INCLUDING THE PROHIBITION OF CHEMICAL WEAPONS. FURTHERMORE, SEVERAL MEETINGS HAVE BEEN HELD AT THE MINISTERIAL LEVEL.

AT THE MOSCOW SUMMIT PRESIDENT REAGAN AND GENERAL SECRETARY GORBACHEV REAFFIRMED THE IMPORTANCE OF EFFORTS TO ADDRESS, AS A MATTER OF CONTINUING URGENCY, THE UNIQUE CHALLENGES OF A CHEMICAL WEAPONS BAN AND TO ACHIEVE AN EFFECTIVE CONVENTION. THEY NOTED THE PROGRESS ALREADY ACHIEVED IN THE TALKS, AS WELL AS THE DIFFICULT PROBLEMS REMAINING WITH REGARD TO EFFECTIVE MONITORING OF THE GLOBAL PROHIBITION OF CHEMICAL

WEAPONS AND THE NON-USE OF DUAL-CAPABLE CHEMICALS FOR CHEMICAL WEAPONS PURPOSES. FURTHERMORE, THE LEADERS UNDERLINED PROBLEMS OF ENSURING EFFECTIVE VERIFICATION AND UNDIMINISHED SECURITY FOR ALL CONVENTION PARTICIPANTS.

BOTH SIDES ALSO AGREED ON THE VITAL IMPORTANCE OF GREATER OPENNESS BY ALL STATES AS A WAY TO BUILD CONFIDENCE AND STRENGTHEN THE FOUNDATION FOR AN EFFECTIVE CONVENTION. THE LEADERS ALSO EMPHASIZED THE NECESSITY OF CLOSE COORDINATION ON A MULTILATERAL BASIS IN ORDER TO ENSURE THE PARTICIPATION OF ALL CW-POSSESSING AND CW-CAPABLE STATES IN THE CONVENTION.

I BELIEVE THIS IS THE PREVAILING VIEW IN THE INTERNATIONAL COMMUNITY AS WELL. ON THE MULTILATERAL LEVEL, A TEXT EXPRESSING THE CONTINUING URGENCY OF PROHIBITION OF CHEMICAL WEAPONS ACHIEVED BROAD SUPPORT DURING SSOD-III, INCLUDING THE SUPPORT OF THE UNITED STATES DELEGATION.

MR. PRESIDENT, ALL THESE POSITIONS ARE REFLECTED IN THE INSTRUCTIONS TO OUR DELEGATION. IF THIS COMMITMENT IS REFLECTED IN THE INSTRUCTIONS TO OTHER DELEGATIONS AS WELL, THEN I BELIEVE THAT THE PROSPECTS FOR FURTHER PROGRESS ARE GOOD.

LET ME NOW TURN TO THE SUBSTANCE OF THE NEGOTIATIONS. TODAY I INTEND TO ADDRESS THREE KEY ISSUES REFERRED TO IN THE UNITED STATES-SOVIET JOINT STATEMENT:

-- THE VITAL IMPORTANCE OF GREATER OPENNESS;

-- THE DIFFICULT PROBLEM OF EFFECTIVE MONITORING OF THE CHEMICAL INDUSTRY; AND

-- ENSURING PARTICIPATION IN THE CONVENTION OF ALL CW-POSSESSING AND CW-CAPABLE STATES.

INCREASINGLY, PARTICIPANTS IN THE NEGOTIATIONS HAVE RECOGNIZED THE VITAL IMPORTANCE OF GREATER OPENNESS BY ALL STATES ABOUT THEIR CHEMICAL WEAPONS CAPABILITIES AND THEIR CHEMICAL INDUSTRIES. THE UNITED STATES DELEGATION ITSELF HAS MADE MAJOR CONTRIBUTIONS IN THIS REGARD. FOR EXAMPLE, IN CD/711, PRESENTED IN JULY 1986, THE UNITED STATES PROVIDED DETAILED INFORMATION ON ITS CHEMICAL WEAPONS STOCKPILE, INCLUDING STORAGE LOCATIONS. FURTHERMORE, IN DOCUMENT CD/830, TABLED LAST APRIL, WE PRESENTED FURTHER DETAILED INFORMATION ON THE CHEMICAL WEAPONS THEMSELVES.

TODAY THE UNITED STATES DELEGATION IS TAKING ANOTHER MAJOR STEP TOWARD GREATER OPENNESS. WE ARE DECLARING THE LOCATION OF EACH OF OUR CHEMICAL WEAPONS PRODUCTION FACILITIES. A MAP SHOWING THE LOCATIONS IS CONTAINED IN THE WORKING PAPER BEING INTRODUCED TODAY, WHICH IS ENTITLED "DESTRUCTION OF CHEMICAL WEAPONS PRODUCTION FACILITIES." IT IS OUR HOPE THAT THIS PAPER WILL CONTRIBUTE BOTH TO GREATER CONFIDENCE AND TO THE NEGOTIATION OF RELATED PROVISIONS OF THE CONVENTION.

THE DECLARATION WE ARE MAKING TODAY IS UNPRECEDENTED. NO OTHER MEMBER OF THE CONFERENCE HAS PROVIDED INFORMATION ON ITS CHEMICAL WEAPONS PRODUCTION FACILITIES. WE URGE OTHER COUNTRIES THAT POSSESS CHEMICAL WEAPONS PRODUCTION FACILITIES TO DECLARE THE LOCATIONS OF THEIR FACILITIES AND TO OUTLINE HOW THE FACILITIES WOULD BE DESTROYED.

MR. PRESIDENT, IN RECENT MONTHS THE CONFERENCE HAS MADE SIGNIFICANT PROGRESS IN RESOLVING LONG-STANDING ISSUES

RELATED TO CHEMICAL WEAPONS PRODUCTION FACILITIES. AN AGREED DEFINITION IS WITHIN REACH. IT HAS BEEN AGREED THAT ALL SUCH FACILITIES MUST BE DESTROYED. CORRESPONDING CHANGES ARE ALREADY BEING MADE IN THE DRAFT TEXT OF THE FUTURE CONVENTION.

WHILE THERE IS AGREEMENT THAT CHEMICAL WEAPONS PRODUCTION FACILITIES MUST BE DESTROYED, LITTLE INFORMATION IS AVAILABLE TO THE CONFERENCE ON HOW THIS WOULD BE DONE. THIS ISSUE HAS ALREADY ARISEN IN WORKING GROUP B THIS SUMMER. TO ASSIST THE NEGOTIATIONS, OUR WORKING PAPER DESCRIBES IN GENERAL TERMS HOW THE UNITED STATES WOULD GO ABOUT THE TASK OF DESTROYING ITS PRODUCTION FACILITIES.

OPENNESS, OF COURSE, HAS NOT BEEN A MONOPOLY OF A FEW DELEGATIONS. WE ARE ENCOURAGED THAT THE CONCEPT OF MULTILATERAL DATA EXCHANGE HAS TAKEN FIRM HOLD OVER THE LAST YEAR OR TWO. MANY DELEGATIONS HAVE PROVIDED RELEVANT INFORMATION IN PLENARY STATEMENTS OR WORKING PAPERS. UNDOUBTEDLY, ADDITIONAL INFORMATION WILL BE FORTHCOMING IN THE REMAINING WEEKS OF THIS SESSION.

OUR RECORDS SHOW THAT APPROXIMATELY A DOZEN MEMBERS OF THE CONFERENCE HAVE NOT YET INDICATED WHETHER OR NOT THEY POSSESS CHEMICAL WEAPONS. WE URGE THEM TO DO SO THIS SUMMER.

BEFORE LEAVING THE SUBJECT OF OPENNESS, I WANT TO SOUND A QUIET NOTE OF CAUTION. INFORMATION PRESENTED TO THE CONFERENCE CAN ONLY FACILITATE THE NEGOTIATIONS IF IT IS ACCURATE. ON THE OTHER HAND, INACCURATE DECLARATIONS WILL DECREASE CONFIDENCE AND COMPLICATE EFFORTS TO BAN CHEMICAL WEAPONS. UNFORTUNATELY, WE BELIEVE STATEMENTS REGARDING NON-POSSESSION OF CHEMICAL WEAPONS HAVE ALREADY BEEN MADE

THAT ARE LIKELY TO HAVE SUCH AN EFFECT. SERIOUS AS THE EFFECTS MIGHT BE EVEN NOW, THE RESULT OF INACCURATE DECLARATIONS AFTER ENTRY INTO FORCE MIGHT WELL BE A SERIES OF CHALLENGE INSPECTIONS, WITH THE ATTENDANT POLITICAL CONSEQUENCES. TRUTHFUL DECLARATIONS ARE ESSENTIAL TO THE ENTIRE PROCESS OF BANNING CHEMICAL WEAPONS.

MR. PRESIDENT, THE CONFERENCE HAS BEEN WRESTLING WITH THE DIFFICULT PROBLEM OF EFFECTIVE MONITORING OF THE CHEMICAL INDUSTRY FOR SOME TIME. THE REPORT OF THE AD HOC COMMITTEE ON CHEMICAL WEAPONS AT THE END OF APRIL, DOCUMENT CD/831, CLEARLY SHOWS THAT SUBSTANTIAL PROGRESS HAS BEEN MADE. THE REPORT, HOWEVER, ALSO MAKES CLEAR THAT COMPLICATED AND THORNY ISSUES REMAIN. RESOLVING THESE ISSUES WILL REQUIRE NOT ONLY CREATIVE APPROACHES, BUT ALSO A THOROUGH UNDERSTANDING OF CONDITIONS IN THE CIVIL CHEMICAL INDUSTRY.

OUR DELEGATION BELIEVES THAT REPRESENTATIVES OF THE CHEMICAL INDUSTRY CAN MAKE AN IMPORTANT CONTRIBUTION TO THE NEGOTIATIONS. THIS CONVICTION HAS GROWN OUT OF THE CLOSE AND LONG-STANDING CONTACTS BETWEEN OUR NEGOTIATORS AND POLICY-MAKERS ON THE ONE HAND, AND REPRESENTATIVES OF THE AMERICAN CHEMICAL INDUSTRY ON THE OTHER. WE HAVE FOUND THAT INDUSTRY SHARES OUR OBJECTIVE OF A COMPREHENSIVE, EFFECTIVELY VERIFIABLE, AND TRULY GLOBAL BAN ON CHEMICAL WEAPONS. PERMIT ME TO CITE A RECENT OFFICIAL STATEMENT MADE BY MR. ROBERT ROLAND, PRESIDENT OF THE AMERICAN CHEMICAL MANUFACTURERS ASSOCIATION. THIS INDUSTRY ORGANIZATION, WHICH IS CALLED CMA FOR SHORT, REPRESENTS COMPANIES COMPRISING MORE THAN 95 PERCENT OF THE UNITED STATES CHEMICAL PRODUCTION CAPACITY.

IN HIS STATEMENT ON APRIL 28, 1988, MR. ROLAND CALLED FOR A "STRONG, EFFECTIVE INTERNATIONAL TREATY" TO BAN CHEMICAL WEAPONS. HE SAID AMERICAN, CANADIAN, JAPANESE AND EUROPEAN CHEMICAL INDUSTRY REPRESENTATIVES HAVE BEEN WORKING FOR SEVERAL MONTHS ON A SET OF RECOMMENDATIONS THAT THE CMA BELIEVES CAN FACILITATE AGREEMENT ON A CHEMICAL WEAPONS BAN. WHEN THE RECOMMENDATIONS ARE AGREED TO, MR. ROLAND SAID, "THEY WILL BE SENT TO OUR NEGOTIATORS ALONG WITH OUR INDUSTRIES' PLEDGE TO DO WHATEVER WE CAN TO MAKE SUCH A TREATY EFFECTIVE."

I ALSO WANT TO POINT OUT THAT THE CMA'S BOARD OF DIRECTORS RECENTLY DECLARED ITS STRONG SUPPORT FOR A CHEMICAL WEAPONS TREATY AND URGED THAT THE CHEMICAL INDUSTRIES OF ALL NATIONS WORK TOWARD CONSENSUS ON THE TECHNICAL ISSUES.

OUR CONVICTION THAT INDUSTRY IS EAGER TO FACILITATE THE NEGOTIATIONS WAS REINFORCED BY THE INFORMAL DISCUSSIONS WITH INDUSTRY REPRESENTATIVES THAT WERE HELD LAST WEEK HERE IN GENEVA. WE ARE ENCOURAGED BY THE SERIOUS AND CONSTRUCTIVE EXCHANGES BETWEEN NEGOTIATORS AND EXPERTS FROM INDUSTRY. THESE EXCHANGES MADE CLEAR THE NEED TO DEVOTE GREATER ATTENTION TO PROVISIONS FOR PROTECTION OF CONFIDENTIAL BUSINESS INFORMATION. THEY ALSO HIGHLIGHTED THE NEED TO SPECIFY CLEARLY WHAT TYPES OF INFORMATION SHOULD BE CONSIDERED CONFIDENTIAL. WE EXPRESS OUR THANKS TO THE INDUSTRY REPRESENTATIVES WHO CAME TO GENEVA AND TO THOSE WHO ORGANIZED THE DISCUSSIONS. THEIR TECHNICAL EXPERTISE AND PRACTICAL EXPERIENCE ARE OF GREAT VALUE IN RESOLVING THE MANY COMMONLY RECOGNIZED ISSUES TAKEN UP IN THE DISCUSSIONS.

ANOTHER POSITIVE DEVELOPMENT IS THE PROPOSAL FOR A

MULTILATERAL EFFORT TO DEVELOP AND TEST PROCEDURES FOR CONDUCTING INSPECTIONS OF CHEMICAL INDUSTRY FACILITIES. INITIALLY, MY DELEGATION RESERVED ITS POSITION ON THAT PROPOSAL UNTIL IT WAS MORE FULLY DEVELOPED. IN LIGHT OF REFINEMENTS PROVIDED BY THE SOVIET DELEGATION, THE UNITED STATES ENDORSES THE CONCEPT OF SUCH A ~~MU~~LTILATERAL EXPERIMENT AND IS WILLING TO PARTICIPATE.

FOR THE EXPERIMENT TO BE SUCCESSFUL, BROAD PARTICIPATION BY STATES POSSESSING COMMERCIAL FACILITIES THAT WOULD BE SUBJECT TO ROUTINE INSPECTION UNDER THE CONVENTION IS ESSENTIAL.

PARTICIPATION BY OTHERS IS ALSO HIGHLY DESIRABLE. IN OUR VIEW, IT IS IMPORTANT FOR PARTICIPANTS IN THE NEGOTIATIONS TO DECLARE NOT ONLY WHETHER OR NOT THEY HAVE CHEMICAL WEAPONS, BUT ALSO TO DECLARE SOON WHETHER OR NOT THEY HAVE CIVIL CHEMICAL FACILITIES THAT WOULD BE INSPECTED. THE UNITED STATES, OF COURSE, DOES HAVE SUCH FACILITIES.

WE AGREE WITH THE SUGGESTION, MADE ON APRIL 26, THAT THE EXPERIMENT SHOULD PROCEED IN A MULTI-STEP FASHION. BEFORE PROCEDURES CAN BE DEVELOPED AND TESTED INTERNATIONALLY, INDIVIDUAL STATES NEED TO CONDUCT THEIR OWN NATIONAL EXPERIMENTS AND PROVIDE THE RESULTS TO THE CD. THE UNITED STATES GOVERNMENT IS ALREADY WORKING WITH THE CHEMICAL MANUFACTURERS ASSOCIATION TO DEVELOP AND TEST INSPECTION PROCEDURES. WE URGE THE SOVIET UNION AND OTHERS TO INDICATE WHAT ACTIONS THEY ARE TAKING.

MUCH DISCUSSION AND PLANNING MUST TAKE PLACE IN THE CD TO MAKE THE EXPERIMENT A REALITY. THE CONCEPT IS A GOOD ONE,

BUT IT NEEDS TO BE FLESHED OUT. MANY QUESTIONS REMAIN TO BE ANSWERED ABOUT HOW TO PROCEED. FOR EXAMPLE, HOW CAN SENSITIVE COMMERCIAL INFORMATION BE PROTECTED UNDER CIRCUMSTANCES WHERE LEGALLY-BINDING RULES OF CONFIDENTIALITY MAY BE LACKING? WE LOOK TO THE SOVIET DELEGATION TO TAKE THE LEAD IN DEVELOPING ANSWERS.

FINALLY, MR. PRESIDENT, I WANT TO STRESS THE NEED FOR A TRULY GLOBAL PROHIBITION OF CHEMICAL WEAPONS. MUCH ATTENTION HAS BEEN DEVOTED TO SECURITY IN EUROPE. BUT EVENTS OF THE PAST FEW YEARS MAKE CLEAR THAT THE GREATEST RISK OF THE USE OF CHEMICAL WEAPONS LIES OUTSIDE EUROPE -- AS DEMONSTRATED IN THE MIDDLE EAST. WE SHARE THE VIEW, EXPRESSED BY THE DISTINGUISHED REPRESENTATIVE OF EGYPT, AMBASSADOR ELARABY, AT THE PLENARY ON APRIL 26, THAT THE CONVENTION SHOULD BE UNIVERSAL IN CHARACTER. A CONVENTION THAT DOES NOT DEAL EFFECTIVELY WITH THE DREADFUL REALITY THAT CHEMICAL WEAPONS CAPABILITIES ARE VERY WIDESPREAD CANNOT BE CONSIDERED SUCCESSFUL.

OUR OBJECTIVE IS A VERY CHALLENGING ONE -- TO SECURE THE PARTICIPATION IN THE CONVENTION OF ALL CW-POSSESSING AND CW-CAPABLE STATES. PESSIMISTS ARGUE THAT THIS IS IMPOSSIBLE AND THAT THEREFORE STATES SHOULD SET THEIR ASPIRATIONS MUCH LOWER. WE CANNOT AGREE. RATHER, WE SUPPORT THE CONSTRUCTIVE AND CREATIVE PROPOSAL BY THE EGYPTIAN DELEGATION THAT WAYS BE FOUND TO CONSULT KEY STATES THAT ARE NOT NOW PARTICIPATING IN THE NEGOTIATIONS. SIMILAR IDEAS HAVE BEEN EXPRESSED BY AMBASSADOR SOLESBY OF THE UNITED KINGDOM AND AMBASSADOR ROSE OF THE GERMAN DEMOCRATIC REPUBLIC. WE SHARE THE VIEW THAT CONSULTATIONS WOULD HELP TO PROMOTE THE DESIRED UNIVERSALITY. WE PLEDGE OUR COOPERATION WITH THE DELEGATION OF EGYPT AND OTHER CONCERNED STATES TO BRING THIS PROPOSAL TO FRUITION.

THANK YOU, MR. PRESIDENT.

NEWS FOCUS

CMA's Olson Unravels Intricacies of Verifying a Chemical Arms Treaty

After contributing his expertise to a Montana city government, a Montana state Senator, and the assistant secretary of the Occupational Safety & Health Administration in the first Reagan Administration, Kyle B. Olson joined the Chemical Manufacturers Association in 1985. His responsibility then was associate director of health, safety, and chemical regulations. But two years later he picked up another duty: staff liaison to CMA's Chemical Weapons Working Group. The working group functions to bring the chemical industry's expertise to the knotty problems of achieving a global ban on chemical arms. In a wide-ranging interview with C&EN senior editor Lois R. Ember, Olson addresses a most vexing problem facing negotiators at the 40-nation Conference on Disarmament in Geneva: verification of a chemical treaty. As envisioned, the final treaty will disarm signatory nations of all chemical arms and ensure that these weapons do not creep back into world arsenals. This latter task is difficult because many of the precursor chemicals to these weapons are also used to make legitimate commercial products. It is further hampered by the fact that a plant's activity is nearly impossible to decipher—modern commercial facilities have no external markings distinguishing them from chemical warfare factories. Some have argued that verification may be impossible, but as Olson points out, there is still no research to support this.

C&EN staff photo

Several Administration officials have spoken of the ease of converting a chemical plant from legitimate to illicit production. Recently Lynn Hansen, assistant director of the Bureau of Multilateral Negotiations for the Arms Control & Disarmament Agency, said: "Any chemical factory that makes pesticides using a batch manufacturing process can easily move from insecticides to chemical agents ... and these factories can disguise their nerve gas work in about 12 hours." Is his statement accurate?

I think there has been a great deal of speculation regarding the speed with which plants can be switched back and forth between commercial products and weapons agents. And, quite frankly, at this point I'm not aware of any empirical evidence, any research that has been done using an actual facility to test that statement.

It probably can be done if a facility was designed with that intent. You can simply frontload the engineering. But to take an existing plant and make that kind of conversion, I don't think anyone can really say authoritatively that that is the case. Beyond that, there's another factor. Simply to make the change from one product to another is not enough. In terms of a treaty's verification regime, you also have to address the traces of the illicit product. Can you remove all traces of that material in a short enough time frame so as to fool a fairly intrusive inspection procedure? Again, I don't think that question has been answered.

What do you mean by an intrusive inspection?

I'm talking about not only sampling the air and waste stream, but also taking wipe samples from equipment, perhaps opening the vessels up and getting samples of the interior lining of the vessels. I'm talking about perhaps disassembling pumps in order to find anything trapped inside. This would be extremely intrusive.

One of the things you have to keep in mind is that a plant that was designed to be able to make an incredibly quick shift would be very costly to build. There are few economic reasons for spending the extra money to make a plant that can make a changeover that quickly and completely. And that would strike me as being suspicious on its face. Such a designed facility would probably prompt inspectors to monitor to a higher degree of precision in the verification procedure than they would at a more conventional batch facility.

But the specially designed plant would have to be a batch facility, wouldn't it?
Oh, I think so. You could describe, perhaps, a continuous production plant that might have gates or whatever that illicit production could be shunted around. But that would also, I think, turn up in the course of very good inspection.

Would you explain a batch facility?
A batch facility is a multipurpose production unit. But by changing certain variables—temperature, pressure, the different flow of raw materials as inputs, the baking time—essentially the same equipment in slightly different configurations can be used to produce a variety of different products. It's not unusual in the U.S. to have a plant that can produce a half dozen or more products in the course of one year using essentially the same pressure vessel, piping, pumps, and control systems. It simply boils down to changing the recipe.

How long does it take to change the recipes?
It varies depending on the degree of design that went up front. Obviously you don't want a system to be down for a great deal of time. Twelve-hour changeovers, though, are not what you would characterize as common in the industry.

Is the changeover time dependent on the degree of sanitation needed? For example, would the changeover in a pharmaceutical plant take longer, or is such a plant specially designed to ease the conversion?
In a batch plant, it is unlikely that one production run is going to be followed by another in which the two products manufactured are totally incompatible. You are going to probably produce products from a similar family. Because some potential contaminants can actually kill reactions, you are going to want to make certain that for every run the system is clean, that sanitized.

If you were making a chemical agent and wante switch over to making aspirin, for example, quickly could you do that? How difficult is clean up so that there is no trace of the highly chemical agent?
It is going to differ from situation to situation. S of the nerve agents that are currently addressed in rolling [proposed] text of the treaty under discus in Geneva—sarin, tabun, VX—are very corrosive terials. Whether they are more corrosive than cer pharmaceuticals that might be produced in those tors is something that, without knowing the detai hard to say. But it is certainly fair to say that if you doing legitimate production runs of pharmaceut and you are trying to switch in and out of nerve production, you are going to want to be very car that the nerve gas is not tainting those pharmac cals or you are going to have some very unha customers.

Is it possible to do the switchovers?
I think it is possible, but that brings us back to question: Is it possible to do it without any traces surviving?

What do you mean by traces?
Trace amounts of chemicals that would remain. (ously if you walk into a plant with an ongoing duction run, your verification problem is straigh ward. The problem seems to be one of verifying duction or nonproduction, and that's actually n bad distinction to draw.

The rolling text as it is now assembled is aime doing two things: one, outlawing production of ch cal weapons agents and, two, controlling the pro tion of precursor materials to those chemical ag The controls are done by verifying the declaratio the manufacturers. The inspections are for the pose, then, of verifying that there is no productic chemical weapons agents and, also, verifying tha plant is producing what it says and the amount t says it produces.

Because nerve gases are so corrosive, reactor ve have to be composed of a high-nickel alloy and/or be glass-lined. Would these characteristi a giveaway that nerve gases were being prod or are there commercial products requiring kinds of reactor vessels?
There are legitimate chemicals that have very se corrosive properties. The days 10 to 15 years ago v you were able to point to a plant and say, 'Ah, are using special alloys or glass-lined vessels, or th got special containment measures, so we are loo at a chemical weapons plant' is really not valid anym

Today, chemical plants are using or producing terials with high toxicity levels—phosgene is one comes to mind. They are using extremely potent in the course of the preparation of everything

Draft treaty bans these chemicals . . .

Sarin: *O*-isopropyl methylphosphonofluoridate
Soman: *O*-pinacolyl methylphosphonofluoridate
Tabun: *O*-ethyl *N,N*-dimethylphosphoramidocyanidate
VX: *O*-ethyl *S*-2-diisopropylaminoethylmethylphosphonothiolate
Sulfur and nitrogen mustards
Lewisites
BZ: 3-quinuclidinyl benzilate
DF: methylphosphonyldifluoride
QL: ethyl 2-(diisopropylamino)ethylmethylphosphonite
Six other chemicals or groups to be discussed further

. . . and scans output of these precursors

Chemicals containing one *P*-methyl, *P*-ethyl, or *P*-propyl bond
N,N-Dialkylphosphoramidic dihalides
Dialkyl *N,N*-dialkylphosphoramidates
13 other chemicals or groups

ing from electronics to plastics to agricultural products to pharmaceuticals. And for a variety of reasons—environmental, health and safety, and, in some cases, commercial—manufacturers don't want to replace vessels and pipes on a regular basis if they can avoid it. There are just more pressures, incentives to build all chemical plants with the highest levels of protection.

Phosgene is widely used to make commercial chemicals, but hasn't it also been used as a chemical agent?
Yes, phosgene can be a weapons agent, but phosgene is also used in the manufacture of agricultural fertilizers and insecticides.

How would you design a plant to ensure that an illicit conversion could go undetected? You said it's possible; how do you do it?
Well, I'm treading into dangerous territory, not being a chemical engineer. Certainly you would have to design a plant to address the problem of the traces. You've got to decide what to do with the waste products, if anything.

If you've got a plant that's 100% efficient, you don't have that problem. But no one has really come up with a 100% efficient process. There are always residual materials left over.

Comes the time to clean out your system, and you're going to flush it with some material, probably water, and that water is inevitably going to pick up some trace levels of the materials you have used. An alternative would be to run some other solvent through that system that might pick up or bond with the residual material and create a new product. But then that created substance, in turn, would get picked up in trace quantities and be carried off into the waste treatment. That is one of the reasons why inspection of the waste coming out of the reactor is an important aspect of the verification process.

So you are saying that for the production of an illicit material to go undetected, a solvent would have to be carefully chosen so that when it reacted with traces of an illicit chemical, a product would be formed that would mask the illegal production?
That would be one strategy. Another strategy, one possibility that has been tossed out, again focusing just on the materials flushed into the waste stream, is that you back up a tanker truck to the reactor and flush it out with water as if it were going to go into the waste stream. But, instead of putting it in your waste treatment facilities or your wastewater, you simply pump it into the truck and drive it off site.

So you would have to design the plant with the waste stream in mind and the kinds of products that would be detectable in the waste stream?
Certainly. But, you have to recognize that with modern analytical methods capable of detecting things down to parts per billion or parts per trillion there is always a chance of detecting something.

Inspecting wastes is an important aspect of verification because, with the use of modern analytical methods, there is always a chance of detecting something

Is that chance limited by the intrusiveness of the sample taking and the time that the inspectors have to inspect?
Certainly if you are trying to circumvent a treaty regime and you know that inspectors are coming and you are trying to get rid of evidence, the more time you have to do that, the more likely you are to succeed.

But that brings us to another question. The waste stream is only one aspect of the problem. Another one that has been noted before is the fact that the seals, the gaskets on the pumps and various other fittings, the agitator in the vessel, and various rubber components and grease seals, have a tendency to pick up traces of the material.

Now let's go back to the earlier scenario where we were talking about a plant designed to change production runs very quickly. A good chemical engineer coming to inspect the plant is going to recognize that and say, 'Ah, we have to perhaps be a little more scrupulous in applying intense verification measures here.' So during the inspection, he is likely to tell the plant managers that there will be a need to disassemble certain pieces of equipment that are proximate to the production vessel, and take wipe samples from inside the machinery, machinery that is not as likely to be flushed out by more conventional methods.

You are referring to the seals, the gaskets, and so forth?
Exactly. The little pieces inside the process which are capable of trapping and holding on to residual materials. Also, the pumps, the flanges, and the seals tend to be outside the reactor vessel and so it is not necessary, simply for the purposes of producing another material, to remove, change, or replace them.

So if someone wanted to build a plant that would hide illicit production, he or she might design some sort of quick-off replacement mechanism for the pumps,

flanges, and so on. But that is also going to signal a good inspector that something is going on here that bears further scrutiny.

What would be the minimal time a company would need to affect a nondetectable conversion?
One of the problems in answering that question is that no one, to our knowledge, has attempted to test it. No one has set up the proper experiment. So it is almost impossible to answer that question.

We have heard the idea that 24-hour notice to a company that it is to be inspected should be sufficient to minimize the likelihood of something like that happening. We've heard 12 hours. I have heard some people say, well, to be safe, just give them six hours. But no group has yet tested it, though a variety of organizations and agencies, both here and abroad, are considering doing some of the needed experiments.

Which organizations?
I think the Arms Control & Disarmament Agency is interested in doing some verification experiments. ACDA has one person under contract whose job is primarily to tackle the research that is needed to help bring about an effective verification regime.

The Department of Energy has a verification research project. I don't know how well funded it is right now, but it is certainly looking at chemical verification as well as verification regarding nuclear weapons. I don't know if the Department of Defense is doing any verification research. It may be working with the ACDA on projects.

And CMA?
We are considering it. It is a question of whether we have the funding, whether we can find the right project to pursue. But we are certainly interested in making contributions where we can.

If it has not yet been tested, why are government officials saying that an illicit production facility can go undetected if the plant officials are given 12-hour or 24-hour notice of an impending inspection?
I think they are basing their opinions on good faith estimates by experts. Probably CMA people have been as guilty as anybody of offering their thoughts on what they believed constituted the shortest possible turnaround time, without having grappled with all of the aspects and permutations of the problem.

Yes, it is probably possible to make a changeover fairly quickly. But can you do it in such a way that you eliminate all traces? That is a trickier proposition than simply switching a few pipes and couple of control systems around.

Could the government officials have misunderstood what the experts were telling them?
I think it is possible that there have been misunderstandings. But misunderstandings on both sides. I think government officials are giving good faith representations of the things that they have heard from experts. I know of one instance in which CMA experts gave an estimate of perhaps 12 or 24 hours. That was fairly early on in our understanding of all the aspects of an inspection. As we are becoming more educated, we are recognizing that use of those numbers may be a little facile.

Is CMA trying to correct this?
We certainly have started mentioning the fact tha maybe it is not appropriate to call for six-, 12-, 24- or 48-hour notice without doing some research. And we have talked about doing some research.

Do you see at least some of the official statements as a political means of derailing treaty efforts?
I don't think that what we have seen so far would be characterized as a political maneuver. I think what we are seeing is a growing appreciation of the complexities associated with controlling chemical weapons technology.

In the past six months or so we have seen a large number of people running very quickly to get up to speed on what is associated with the issues on chemical weapons. It is highly unlikely that they are not going to develop opinions and defend these in the course of that sprint toward understanding.

How do you design an ideal inspection to ensure that you can detect production changeovers?
First let's define the objective. Is the inspection itself designed to give 100% assurance that there has not been a violation? If that is your objective, then yo have carved out for yourself a very difficult, if no impossible, task. CMA has told the authorities that we think a foolproof verification system is probably not feasible.

Now, what if you don't need 100% assurance? What if, for a variety of reasons, you can be satisfied that your inspection will give you 80% confidence that nothing illicit has been going on? For many reasons, not the least being your own military and intelligence capabilities, you may be satisfied with an inspection regime that gives you about an 80% degree of confidence.

Is that what CMA is aiming for?
We are not looking at putting a number to it. In the thinking and writing that we have done, we have emphasized that a verification regime which results in a plethora of inspections that are structured in such a way that they effectively shut down a chemical plant would be counterproductive, especially if these were done on a routine basis. We are urging that things be done in such a way so as to bring a degree of reasonableness to the process. At the same time we want to put together a regime that has the best feasible, technical chance of identifying a potential violator.

That brings us back to the question, and it becomes a political decision, of how much is enough. What degree of confidence do you have to have in your findings in order to satisfy yourself that you have got a workable regime? There are clearly disagreements on this.

In broad outline and sticking with 80% confidence, how would you design an inspection?

In essence I think you end up looking at about three different key areas that need to be tackled to some extent. First you have to have a method for taking a look at the design of the plant, at the capabilities or capacities of the plant, and matching these with the information the plant makes available as part of its annual declaration.

One of the requirements under the current rolling text is that every plant in a signatory state [country], through its government, provide information on the production of precursor chemicals—commercial chemicals that can be converted to chemical weapons agents. These declarations include the location of the production facility, how much of the material the plant intends to produce, and how much it has produced during the past year. Thus routine, on-site inspections, as envisioned under the rolling text, are for the purpose of verifying that what the plant declares is true.

So coming into the inspection, inspectors have essential information in hand regarding what the plant says it is able to produce and what it intends to produce. Inspectors also have access to information on how the plant is designed and operated. And so one of the aspects is clearly to match up the information in the declaration with the information inspectors see with their own eyes and touch with their hands in the course of walking through and examining the plants. That's part one.

Part two delves into the analytical chemistry of the whole thing. Inspectors are going to want to take samples of the raw materials that are in the system, and of the waste streams. And, depending on the degree of intrusion that is appropriate, inspectors may want to take wipe samples from various pieces of equipment within the process. These samples are all going to have to be analyzed.

Inspections need to tackle three areas: the capabilities of the plant, the waste stream analysis, and the paper audit—comparing raw goods with production and shipment records

CMA has recommended that any samples taken be divided into four portions. Whenever possible one part should be analyzed on site by the inspectors. This greatly simplifies such problems associated with verification as transporting samples, maintaining chains of custody, ensuring that there is no funny business going on. There are limitations on the technology, but inspectors can bring in portable gas chromatographs and mass spectrometers.

Another part of the sample should be analyzed, if desired, by the manufacturer, essentially as a check. There should be the option of still another part of the sample being taken off site for more detailed analysis. And finally, the fourth part should probably be retained on site in a locked, tamperproof container. This gives you the option of retesting at a later date.

The third part of an inspection is the paper audit, which some view as critically important and others say can lead to misleading results. This involves taking a look at the raw materials that come into a plant. Comparing those with the production records in the plant and with the shipments of materials from the plant.

By taking all of these numbers and crunching them together, inspectors will try to reach some sort of materials balance, some sort of calculation that will tell them within a reasonable degree of accuracy whether the plant has been producing what it says it has been producing.

Some critics of the paper audit argue that it would be easy to dummy up the records. Certainly there is the possibility of phony records or dual bookkeeping. But given what goes on in a modern chemical plant, I think the chances of doing it convincingly are probably fairly slim.

Again, where would you sample?

Let me characterize the samples that were taken at the first U.S. national trial inspection at the Akzo plant in Gallipolis Ferry, W.Va.

There were liquid samples taken from the reactor vessels, the product storage tank, the raw material supply tank, and one or more points in the waste treatment system. Samples were also taken from final, drummed product to assure that it was indeed the material that was supposed to be manufactured. Perhaps the most unusual sample was taken from an open, grated trench that ran through the production area. The trench collected runoff from the production area and took it out to a central collection point, and thence to go to the waste treatment facility. This was probably a gratuitous sample, because it was really part of the waste stream and we would have gotten a similar sample downstream anyway.

The samples were roughly a liter. And they were roughly divided into fourths.

There were also wipe samples taken at various points around the process unit itself. That's just a case of taking a sterile cotton swatch and wiping it along the pumps, for instance, or fittings where there may be trace releases. Each wipe sample was divided into four sections.

The pumps were not taken apart to get into the seals inside. Under some circumstances, there might be a need for something like that. But recognize that that degree of intrusion is going to have significant impacts on the ability of a facility to operate. So I think it is going to be a very seldom used procedure. It would probably be the kind of procedure inspectors would consider for a challenge inspection, where one country accuses another of a treaty violation and where inspectors would really be digging hard.

Could there be an air emission that is safe but would be a tag or indicator for an illicit production?
That's an interesting question. My first reaction is no, but I think I would want to ask some chemists about that. It's still an unanswered question, one that probably bears some further research.

Is it possible to design a challenge inspection that would detect, retroactively, that chemical agents had been produced?
The key virtue of a challenge inspection is that it gives a country the ability to bring down the inspection forces on a facility that may or may not be a declared location. Under a challenge inspection, a country that believes it has evidence that another state is involved in the production of chemical weapons can request an inspection of a specific plant, and the challenged country cannot deny the request. It doesn't have to be a declared chemical producing facility.

Because a great deal of political capital is invested in lodging a challenge, many observers assume that challenge inspections will happen infrequently. Whether this is the case remains to be proven.

But given all this, I don't think you need different techniques for a challenge than for a routine inspection. You'd certainly want to do the same things in terms of looking at the plant, at the equipment, taking samples from various points in the plant, and taking a look at the paperwork in the plant. You might do it with a much greater degree of skepticism than you would in a routine verification inspection. You might have more people doing it in a much more intrusive manner than they would a routine inspection.

Would the design of an inspection depend upon the type of chemical plant being inspected?
Every plant that is declared under the treaty is going to have an inspection tailored to the unique nature of that plant. The rolling text currently calls for subsidiary agreements. These agreements are negotiated between the international authority set up under the treaty, the national government, and the facility itself. And they set out the areas within the declared site that are subject to routine inspection.

So there will be several different kinds of inspection protocols?
I think you would probably have a generic inspection protocol but you would have opportunity to customize it to the unique nature of the plant.

This would be true whether it was a routine or challenge inspection?
Challenge is going to be tougher. I suspect that the inspectors will find themselves in the position of making things up as they go along in the course of a challenge inspection, at least of a nondeclared facility. But with a routine inspection, the inspectors are going to have a lot of information about the facility before they inspect it. And activities are going to be very well defined before a routine inspection gets under way.

From all you've said, then, it is possible to design a routine or challenge inspection that will have very good prospects of detecting that a chemical agent had been produced in a facility at some time?
I think given the three prongs to an inspection, you certainly have a fighting chance. It is important to recognize that no one envisions the international authority and its system of routine inspections replacing the due vigilance that a country is going to exercise in protection of its own national security interests.

So from a chemical industry point of view, verification is not an insurmountable problem?
At some point people in the political system are going to have to make judgment calls as to how much [confidence in the inspection regime] is enough. I the line is drawn at a reasonable point, then I think that verification is doable, recognizing also that verification in a vacuum is probably not a realistic prospect. That is, verification by itself, absent any other national security measures, intelligence gathering activities, a recognition of the relative pecking order of chemical weapons within the international balance of power and regional balances of power, and given a reasonable definition of what is expected of it, is probably not viable.

I think verification is doable, but probably not without national security and intelligence gathering activities as well as recognition of the international and regional balances of power

CHEMICAL WEAPONS CONVENTION BULLETIN

ISSUE NO. 2 Autumn 1988

Published by the Federation of American Scientists Fund (FAS Fund)

THE PROPOSED CHEMICAL WEAPONS CONVENTION: AN INDUSTRY PERSPECTIVE

Kyle B. Olson

Associate Director for Health, Safety and Chemical Regulations
Chemical Manufacturers Association, Washington DC

On October 12, 1987, the Board of Directors of the US Chemical Manufacturers Association (CMA) adopted a policy of support for the Chemical Weapons Convention. CMA is a nonprofit trade association whose members represent over 90% of the basic chemical productive capacity of the United States. CMA has been, if not the sole, then certainly the strongest advocate of industry's interests in the debate on a chemical weapons treaty.

CMA traces its involvement in this issue back nearly a decade, though for many of those years it was a priority issue for only a limited number of companies. It had its home at CMA in a special panel funded and staffed by companies with an interest in phosphorous compounds. This was because of the early concentration of interest by diplomats in the CW agents based on phosphorous. Activity during this period was steady but generally low key, with a few lonely individuals carrying the industry's concerns on their backs.

In early 1987, however, CMA decided to throw the issue into the mainstream of its operations. The small phosphorous-focused panel was dissolved and the group was reconstituted within the Technical Department of the Association. This move, which greatly expanded the number of companies and professionals involved in the issue, occurred just as major shifts in the Soviet Union's negotiating position were sending the Geneva talks on an exhilarating rollercoaster ride.

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CMA had long provided comments on technical proposals brought forward by US government agencies involved in the treaty process. The shift of the CMA activity to a more "generic" orientation, coupled with the sudden appearance of movement in the heretofore glacially slow talks caused the chemical industry to assume a more ambitious advocacy position. In the last two years this has meant:

- the development and distribution of papers by industry [continued]

- experts on issues such as the protocol for a routine inspection and possible means of safeguarding the confidentiality of trade secrets and other proprietary information;

- participation in meetings, both in the US and abroad, with other industry, government and academic experts on how to resolve issues blocking completion of a workable treaty;

- the establishment of an ongoing dialogue with other industry associations, both here and abroad, aimed at achieving a consensus on the outstanding questions; and

- the formal adoption by CMA's Board of Directors in October 1987 of a policy committing the US chemical industry to work for a treaty to ban the manufacture, possession and use of chemical weapons [see CWC Bulletin No. 1].

The US chemical industry has not assumed a pro-treaty posture lightly. The Convention, when it comes, will cost US companies money. CMA expects that any verification regime will result in significant loses of confidential business information. Additional costs will be associated with dis-

ruptions in production due to compliance activities of inspecting teams and new paperwork burdens. [continued]

The Chemical Weapons Convention Bulletin is published under the auspices of the Federation of American Scientists Fund, in cooperation with the Arms Control Reporter. The goal is to provide information and analysis toward an effective multilateral treaty which will eliminate chemical weapons and help prevent the exploitation of biomedical technologies for hostile purposes. The Bulletin appears quarterly. It summarizes important developments and documents relevant to the projected Chemical Weapons Convention now being negotiated in Geneva. It also gives notice of recent literature and forthcoming events.

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The Bulletin is available from the Federation of American Scientists Fund, 307 Massachusetts Avenue NE, Washington DC 20002. The FAS Fund, the Federation's educational arm, engages in research on technical and scientific issues bearing on national security for the Federation of American Scientists (FAS). FAS was founded in 1945 by members of the Manhattan Project and is the oldest organization dedicated to ending the nuclear arms race.

Other national industrial groups, in Asia, Europe and North America have also realized that the treaty will bring new costs to industry. In July of this year, experts from the world's chemical industry traveled to Geneva for the second time in as many years to discuss important questions raised by the treaty with members of the negotiating teams. While better attended than the previous meeting, held in July 1987, the majority of the industry participants were from market-economy nations. This was not altogether inappropriate, since a majority of the questions focused on concerns of these states. Over a two day period, the concerns of the chemical industry were discussed with individual negotiating teams, with the Western Group of the Conference on Disarmament, and with the full Conference.

CHEMICAL INDUSTRY TAKES THE LEAD

On 28 April 1988, the President of the US Chemical Manufacturers Association, Mr Robert Roland, issued an official statement calling for a "strong, effective international treaty" to ban chemical weapons. It says that American, Canadian, Japanese and European chemical industry representatives have been working for several months on a set of recommendations that the CMA believes can facilitate agreement on a chemical weapons ban. When the recommendations are agreed to, "they will be sent to our negotiators along with our industries' pledge to do whatever we can to make such a treaty effective." (CD/PV.469; CMA News Release 28 April) [See also Chronology entries for 12 Oct 1987, 25-6 Jan 1988, and 21-22 and 28 July 1988]

Confidentiality remains the central concern for industry. Industry experts pointedly noted that the Rolling Text of the Convention devotes less than a full page of language to the subject, scattered throughout the document. The fact that the Conference had not addressed the topic since the preceding summer was also pointed out to the negotiators. The discussion centered on the proposed Inspectorate and its procedures for safeguarding information that comes into its possession. This includes the need to find a way to ensure the fidelity of the inspecting personnel.

Another topic generating some attention was the need to develop a protocol for inspections which will ensure a minimum of disruption while allowing for meaningful verification work. An industry proposal for creating points in the standard inspection routine which would serve as decision points for early termination of the visit was offered as one way of dealing

with this question while allowing the international authority created by the Convention to better manage its resources.

Along these lines, the West German proposal for ad hoc inspections was viewed with great interest by industry participants. Under ad hoc inspections, the international authority would have the power to extend inspections to non-declared facilities. This is consistent with industry's belief that the likelihood of detecting violations by examining declared plants is very low.

Industry has agreed that these problems need detailed solutions and is developing papers on each topic. This process will, it is hoped, offer new insights which may aid in achieving an effective prohibition of chemical weapons.

West Germany cracks down on exports of weapons gas

Munich

West German Chancellor Helmut Kohl withstood a blistering attack for his behaviour in the continuing Libyan chemical weapons scandal as his government introduced new measures on 15 February to tighten West German export laws.

Kohl's centre-right coalition government last week issued a report confirming that Bonn was informed as early as 1980 that West German companies might be participating in the building of a chemical weapons factory at Rabta in Libya. (Kohl's government took office only in 1982.) In 1985, the West German companies involved were first mentioned by name in a confidential report from the West German ambassador in Moscow. The list included Imhausen-Chemie GmbH, the company that allegedly designed the factory and provided West German engineers to help with its construction.

The government now says that it could not have acted sooner to stop exports to Libya. A preliminary investigation was not warranted until July 1988, Chancellery Minister Wolfgang Schäuble insisted last week, adding that Kohl was first informed of the charges on 20 October 1988.

The opposition Social Democrats battered Kohl in an unusually acrimonious televised parliamentary debate. Party leader Hans-Jochen Vogel accused Kohl of "shameful" insensitivity for not acting sooner. If Kohl did not know about the charges earlier than October 1988, then he was remarkably uninformed, said SPD parliamentarians. And if he did know, they asked, why didn't he do anything?

Kohl was criticized by his own coalition partners in the parliamentary debate, raising the spectre of a breach within the six-year-old coalition. Although foreign and West German observers foresee no immediate change of government, there is some speculation that the coalition might not survive the 1990 parliamentary elections.

The government's plan for improving export controls includes lengthening the list of banned chemicals and equipment, improving communications among export authorities in West Germany, increasing the penalties for those involved in chemical or biological arms production, and increasing threefold the personnel responsible for monitoring West Germany's massive exports. The plan was agreed upon in principle by all parties. Legislation is expected to follow later this year.

West German Foreign Minister Hans-Dietrich Genscher (Free Democrat) acknowledged that unilateral action to ban chemical arms exports is insufficient. He called for rapid progress towards an international, verifiable ban on the manufacture of chemical weapons and on stockpiling.

In a late development on 20 February, foreign ministers of all 12 members of the European Community (EC) voted to require export licences for 8 chemical compounds (1–8 in the table), and to forbid export of these substances into 'war zones', although it will be some time before these new requirements will come into effect.

The dual-purpose nature of many chemical weapon-precursors makes international monitoring difficult. Controls were reportedly considered for isopropyl alcohol because it is a key ingredient in the mixing of binary chemical weapons. The new West German export regulations foresee mandatory licensing for the export of compounds 9 to 17 (see below), as is US practice for exports to Libya, Syria, Iran and Iraq.

The West German chemical industry organization Verband der Chemischen Industrie agreed last week to voluntary registration of exports of 23 additional compounds. The new regulations will for the first time require licences for export to 'sensitive areas' such as the Middle East.

Steven Dickman

Export restrictions on chemicals with 'weapons' applications

Compound	United Kingdom	United States	West Germany	East Germany	France
1. Thiodiglycol	■	■	■	■	■
2. Phosphorous oxychloride	■	■	■	■	■
3. Dimethyl methyl phosphonate	■	■	■	■	■
4. Methyl phosphonyl difluoride	■	■	■	■	■
5. Methyl phosphonyl dichloride	■	■	■	■	■
6. Dimethyl phosphite	■	■	■	—	□
7. Phosphorous trichloride	■	■	■	■	■
8. Trimethyl phosphite	■	■	■	—	□
9. Thionyl chloride	—	■	□	—	—
10. 3-Hydroxy-1-methylpiperidine	—	■	□	—	—
11. *N,N*-diisopropyl-*β*-aminoethyl chloride	—	■	□	—	—
12. *N,N*-diisopropyl-*β*-aminoethane thiol	—	■	□	—	—
13. 3-Quinuclidinol	—	■	□	—	—
14. Potassium fluoride	■	■	□	—	—
15. 2-Chloroethanol	■	■	□	■	—
16. Dimethylamine	■	■	□	■	—
17. Dimethylamine hydrochloride	—	■	□	—	—

■: Export licences required. ■: Licence required for export to certain countries. □: Export licences to be required in near future. —: No licence required. Data are courtesy of the Geneva Disarmament Conference. The first five compounds on the list include precursors of mustard gas and the nerve gases tabun and sarin. The list includes fluoridating agents (14) and solvents (15) with a number of industrial and pharmaceutical uses as well as phosphoorganic (6–8) that may serve as nerve gas precursors. (Data supplied by Verband der Chemischen Industrie).

Soviet research ship is impounded for "illegal entry"

London

The Soviet research ship *Akademik Mstislav Keldysh* became the focus of a diplomatic incident two weeks ago, when the harbour authorities at Freetown, Sierra Leone, impounded the ship for allegedly making an illegal entry into the harbour.

The nuclear-powered ship, which belongs to the Soviet Academy of Sciences, carries two submarines for sea-bed exploration and a scientific staff of 100. According to the Soviet Foreign Ministry, the ship entered Freetown to replenish its stocks of water and to pick up British and West German scientists who were to join the research team. The 72-hour notice of entry required by the Sierra Leonese authorities was duly given, the foreign ministry said.

Why the Sierra Leonese impounded the ship is not clear. According to the Sierra Leonese High Commission in London, there was some suspicion that there were marines on board. This may explain the assertion, in the Soviet protest note, that "a strictly scientific vessel is being made out to be almost a military ship that had entered the territorial waters of Sierra Leone illegally". The attitude of the Freetown authorities, the note said, "gives reason for believing that this is a case of deliberate provocation", and the Soviets cautioned Sierra Leone that it should "seriously weigh up all the possible consequences to which its unfriendly steps with regard to the USSR could lead."

The *Akademik Mstislav Keldysh* was eventually released and has resumed research operations.

Vera Rich

DAMO-SWC 08 MAR 1989

Mr. Bill L. Brady
Plant Manager
AZKO Chemicals Inc.
Route 2
P.O.Box 1721
Gallipolis Ferry, WV
25515-1721

Dear Mr. Brady:

In behalf of the US Army, I am taking this opportunity to express to your Company, to you and to your staff my sincerest appreciation for the manner in which you participated in the recent National Trial Inspection of your facility.

Dr. Boyle of my staff has advised me that your overt cooperative spirit, candor, philosophical insight, in-depth knowledge of plant operations and administration, rapid response to questions with more than required response, understanding of the intricacies of the proposed chemical treaty and your overall friendliness contributed greatly to the inspection/observation teams mission. In addition you provided quite an educational forum so that our personnel could take advantage and learn without fumbling the ball.

Your professional attitude, innate competence, attention to duty and strength of leadership set this inspection on the proper course to meet the formidable challenges of future negotiations.

It is always comforting to know that one has available the support of a most competent individual under pejorative conditions with many and varied complex issues associated with the chemical program and the proposed chemical treaty.

I feel that you have made a major contribution towards the successful completion of a chemical treaty in the future.

Thank you for a job "Well Done".

Howard C. Eggleston

HOWARD C. EGGELSTON
Brigadier General,U.S. Army
Director, Space and
Special Weapons

March 2, 1989

Bill L. Brady, Plant Manager
Akzo Chemicals Incorporated
P.O. Box 1721, State Route 2
Gallipolis Ferry, West Virginia 25515-1721

Dear Bill,

On behalf of the government agencies that visited with you on 21-23 February, I want to express our thanks and

appreciation. Your cooperation, assistance and patience were unlimited and recognized with much gratitude. We went away with a keener understanding of the complexities of monitoring of a chemical facility and of your concerns about protection of proprietary information. This will serve us well in our negotiations in the Conference on Disarmament.

Please pass along our thanks to Butch Schafer, Rich Snyder, and the others that assisted in the mock inspection exercise. We are grateful for your help.

Sincerely,

Robert P. Mikulak
Senior Scientist

October 24, 1988

Dear Mr. Whittaker,

On behalf of the Government representatives who visited your Gallipolis Ferry plant on Thursday, October 6, 1988, I want to express our thanks and appreciation. The presentations, tours and discussion were most informative and enlightening. Our people went away with a keener understanding of the complexities of monitoring an organophosphorus chemical manufacturing facility. This insight will serve us well in the negotiations on a chemical weapons ban in the Conference on Disarmament in Geneva.

I also want to thank Akzo for joining with the United States Government in the effort to develop inspection procedures that will provide effective monitoring to safeguard U.S. security interests and, at the same time, accommodate industry's concerns about intrusiveness and confidentiality. We have been working closely with the Chemical Manufacturers Association for a number of years and we welcome your participation in this endeavor with them.

I anticipate there will be several meetings in the next three to four months at your facility, culminating in the trial inspection, with some of your employees and USG representatives performing the roles of inspectors. These activities will be low-key, with no press or regulatory agency (EPA, OSHA, etc.) participation. There will be no unilateral U.S. Government information releases. Eventually, there could be an international verification experiment; I would anticipate this to be conducted later in the next year. This event would receive public and press attention.

Please pass along our thanks to Bill Brady for his outstanding presentation and tour and his kind hospitality. Thank you again for your Company's cooperation.

Sincerely,

Lynn M. Hansen

GOVERNMENT

Plant Inspections To Pave Way for Chemical Arms Treaty Monitoring

International effort aims to develop inspection protocol to detect diversion of commercial chemicals used to make chemical weapons

A few weeks ago Bill L. Brady experienced something no other U.S. chemical plant manager ever has. He, two of his chemical engineers, and four government representatives conducted a mock inspection of Akzo Chemicals' Gallipolis Ferry, W.Va., plant. The plant makes organophosphorus-based flame retardants. One of these chemicals, dimethyl methylphosphonate, sold under the tradename Fyrol, would routinely be monitored under a chemical warfare treaty now being negotiated in Geneva.

The exercise, for which Akzo volunteered, is one of many being carried out in 16 countries around the world. A protocol will be developed from these exercises, called national trial inspections, that eventually will be used by an international inspection team to verify that routinely produced commercial chemicals are not being diverted to make chemical warfare agents.

According to Brady, the Akzo plant produces "a limited amount of Fyrol, less than 1 million lb per year." Production is done in batches of four campaigns a year. Dimethyl methylphosphonate is not a chemical warfare agent, but it is a distant precursor to one. As Chemical Manufacturers Association spokesman Kyle B. Olson notes, "It is several steps removed from the nerve gas GB," or Sarin.

Through chemical manipulations, Olson explains, dimethyl methylphosphonate can be converted to methylphosphonyl dichloride, or dichlor. Dichlor can be transformed into its fluoride cousin, methylphosphonyl difluoride, or difluoro. Difluoro is one component of the binary GB artillery shell.

CMA was instrumental in setting up the mock inspections, working with the company and relevant government agencies. The six-person team included two Akzo chemical engineers, acting as inspectors, a representative from the Arms Control & Disarmament Agency (ACDA), and three chemical warfare experts from the Army's Chemical Research, Development & Evaluation Center at Aberdeen, Md. Several people from the Energy Department, the Central Intelligence Agency, the Onsite Inspection Agency created under the Intermediate-Range Nuclear Forces Treaty, and CMA went along as observers. Brady served that function for Akzo.

The actual inspection, which took three days, was basically designed

Sixteen countries plan trial inspections of chemical plants

Australia: Conducted an inspection at a multipurpose (batch production) plant late in 1988; may conduct another one.

Belgium: Preparing for an inspection.

Brazil: Conducted an inspection in December 1988.

East Germany: Conducted an inspection at a pharmaceutical plant in October 1988.

Finland: Preparing for an inspection.

France: May have conducted an inspection in early 1989 (report on inspection not available).

Hungary: Conducted an inspection at a pharmaceutical-chemical complex in December 1988.

Italy: May have conducted inspections in December 1988 at two different facilities (report on inspections not available).

Japan: Conducted an inspection in November 1988.

The Netherlands: Preparing for an inspection in early 1989; conducted one in 1988 at a civilian chemical plant, two years before the Conference on Disarmament sponsored trial inspections.

Sweden: Conducted an inspection at a multipurpose (batch production) facility in November 1988; may conduct additional inspection at a military facility.

Switzerland: Preparing for an inspection at a multipurpose facility in spring 1989.

U.K.: Preparing an inspection at an organophosphorus chemical manufacturing plant in early 1989.

U.S.: Conducted an inspection at a West Virginia plant making organophosphorus flame-retardant chemicals in February 1989.

U.S.S.R.: Conducted an inspection in December 1988 at a chemical production facility.

West Germany: Conducted an inspection in December 1988.

Staffan Carl-Magnus Hyltenius, head of Swedish Delegation to Conference on Disarmament in Geneva

by CMA. In addition to inspecting the production line carefully and taking samples at strategic points along the line, the CMA protocol "establishes a paper trail to produce a rough materials balance sheet," Olson says. Production records, raw materials received, and final products shipped are audited.

According to Olson, four sets of samples were taken at each sampling point, which numbered less than a dozen. Initial analyses, using gas chromatography-mass spectrometry, were made on site. Final analyses will be carried out at the Army's facility at Aberdeen.

As "this is the first such inspection ever done in the U.S.," and it was so recently conducted, Brady says it is a little too early to comment. Olson agrees it is too early to comment with precision, but he did say, "People were satisfied that it was a pretty useful exercise."

Olson is quick to add, "It may turn out that we may have been overzealous in taking samples." And there appeared to be a "need to nail down more information prior to coming in," he continues. Olson expects that another inspection at a chemical plant producing a different class of chemicals is likely.

The results of the Akzo inspection will be reported to the Geneva-based, 40-nation Conference on Disarmament this spring. They will be analyzed by the Swedish delegation to the conference, along with the results of inspections from 15 other countries.

The Swedes will cull the best features and develop guidelines for an inspection protocol to be incorporated in a final treaty. "Such guidelines will include recommendations on how to conduct an inspection, in practical terms; what inspectors will be entitled to see and not see; a checklist for an inspection; and how to report on the inspections," says Carl-Magnus Hyltenius, head of the Swedish delegation. He expects the guidelines to be delivered to the Geneva negotiators by late summer.

No matter the final form of the inspection protocol, it is possible that the chemical being monitored in this exercise, dimethyl methylphosphonate, may not be listed on Schedule 2 of a final treaty. Schedule 2 chemicals are those that are made commercially but can eventually be converted to a chemical warfare agent, and whose production would be routinely monitored.

On the provisional Schedule 2 list, dimethyl methylphosphonate falls under the broad category of chemicals containing one *P*-methyl bond. The chemical industry has urged the Geneva negotiators to narrow the definition under this category. Otherwise too many chemicals are captured in this broad net to deal with effectively, industry contends.

Lois Ember

Agencies debate export controls on technology

One of the key technological issues the Bush Administration will be facing in coming months is the reform of the export control system—what sensitive technologies and areas of science to restrict for national security reasons. The issue is a controversial one.

On the one hand, America's high-tech industries, plus those in Western Europe and Japan, are upset with what they believe is the Defense Department's penchant for wanting to classify almost everything. Defense, on the other hand, wrings its hands over industry's liberal view of what is and isn't strategic. The Commerce Department, which administers the Export Administration Act and says it needs more analysts, generally takes industry's side and raises interagency tensions in the process.

In the middle is the State Department's evaluative Office of Munitions Control, which is understaffed and crying for help. Off to the side observing and criticizing are units in the National Academy of Sciences and the American Association for the Advancement of Science, which promote openness in the communication of scientific research. The premise is that science should be open and that technology is so inherently leaky that nothing but the most strategic know-how is really controllable.

The Defense Department is currently having the Institute for Defense Analysis take a fresh look at the "Militarily Critical Technology List" with an eye toward reducing its encyclopedic bulk. The list contains thousands of items for which export licenses must be obtained.

Recently, the Central Intelligence Agency tried to make a pitch for a stronger policy role with the release of a report on a new, and to its mind sensible, method of classifying strategically sensitive microelectronic technologies. It [illegible] its method a new approach "[illegible] processing and presenting intelligence in a usable and understandable form."

The method is simple in concept but probably expensive in the analytical brainpower needed across many fields. It amounts to upgrading the agency's ability to assess more keenly Soviet needs and capabilities in specific technologies. The idea is that if one knows specifically what weapons systems the Soviets need, then one need not be so subjective over what to control.

"Unlike the current system, which is heavily biased toward developing a universal set of 'militarily critical technologies,'" the report says the new system "returns to the original reason for U.S. and multinational export controls—Soviet military needs." The report, "National Security and Export Controls: A Decision Aid," has no author or address. It was distributed at a meeting of the Commerce Department's Technical Advisory Committee on the Militarily Critical Technology List.

The report describes six case studies under which the method is put to use. All involve microelectronics production equipment and processes: low-pressure chemical vapor deposition; ion implantation; automatic wire bonding; ion milling; computer-aided design equipment and software; and mask making, inspection, and repair equipment.

All six are on the critical technologies list. But the CIA analysts found that one—ion milling—didn't need to be. This is a form of etching that defines the circuit pattern on an integrated circuit. The analysts found, however, that it was of no use for the advanced control systems the Soviets were trying to develop. "Since the fabrication of less sophisticated integrated circuits can

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CHEMICAL MANUFACTURERS ASSOCIATION
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THE NEW YORK TIMES, WEDNESDAY, MARCH 8, 1989

Procedures Tested for a Chemical Arms Ban

By PAUL LEWIS
Special to The New York Times

GENEVA, March 7 — The United States and other countries negotiating a ban on poison gas and other chemical weapons have started making mock inspections of their national chemical plants to test procedures for verifying a treaty outlawing such weapons, a French official said today.

The official, Pierre Morel, who is chairman of the negotiations this year, said at a news conference here that the United States, Sweden, Hungary, Italy, the Soviet Union and Brazil have all recently conducted such mock inspections.

The aim is to gain experience in techniques for inspecting plants to see whether they are producing chemicals that could be used in weapons. The mock checks also help private industry become accustomed to regular official inspections. These countries and others planning to conduct such mock inspections in the near future will exchange their findings later this spring.

The American inspection was conducted over three days last month at the Akzo Chemical Corporation's plant at Gallipolis Ferry in West Virginia by officials from the United States Arms Control and Disarmament Agency under an agreement made with the American Chemical Manufacturers Association. Akzo, a subsidiary of Akzo N.V. of the Netherlands, volunteered for the inspection.

'A Crucial Phase'

The Gallipolis Ferry plant manufactures chemicals that could be used in chemical weapons and would thus be subject to regular international inspection under the terms of the chemical weapons ban being negotiated here, American officials say.

Mr. Morel said that up to another 15 countries, including France, plan to hold such mock inspections in the next few weeks. This summer the 40 mem-

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ber countries of the United Nations Disarmament Conference are to begin making mock inspections.

Mr. Morel said the chemical weapons negotiations have now entered "a crucial phase," with negotiators concentrating on devising an effective verification regime that he described as the "key to any agreement." But he declined to endorse recent claims by Foreign Minister Hans-Dietrich Genscher of West Germany and Foreign Minister Giulio Andreotti of Italy that a treaty can be completed this year.

He said that West Germany and Britain have recently submitted new verification proposals to the disarmament conference that differ from the plan put forward by the United States in 1984 and that the Soviet Union accepted in principle in 1987.

Under the United States plan, plants producing chemicals that could be used in weapons would be subject to regular inspection by a new international monitoring agency. But in addition, countries would have the right to demand unlimited challenge inspections of any of each other's chemical plants.

Some Developing Nations Balk

Diplomats say that several developing countries, including China, India and Brazil, are unhappy with the American proposal, which they feel is unduly intrusive and amounts to accusing the country inspected of cheating. Neutral countries say they do not want to challenge their neighbors in this way.

West Germany has proposed that countries give the international inspection agency a register of all their chemical works and allow it to carry out periodic spot checks on plants not regularly inspected. But this could lead to the agency conducting several thousand inspections a year, diplomats say, which is considered impractical.

Bonn then proposed eliminating "irrelevant" plants from the list to reduce the number of checks required.

As an alternative approach, Britain has now suggested that every country should have the right to ask the inspection agency to conduct a limited number of challenge inspections on any chemical plant in another signatory country.

Diplomats say this would limit the agency's workload and reduce the risk of industrial espionage because the country demanding an inspection would not be represented on the inspection team.

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REMARKS OF
DR. WILL D. CARPENTER
AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE
SAN FRANCISCO, CALIFORNIA
JANUARY 16, 1989

IMPLEMENTING GLOBAL CHEMICAL WEAPONS DISARMAMENT-CHEMICAL INDUSTRY PERSPECTIVE

WHEN SOME OF US IN THIS AUDIENCE WERE GROWING UP, "VERIFICATION" WAS A WORD WE ENCOUNTERED ONLY IN GRAMMAR SCHOOL SPELLING BEES. TODAY, THAT WORD IS VERY MUCH A PART OF THIS MODERN AND DANGEROUS AGE.

IN OUR EFFORTS TO CONTROL, REDUCE, OR ELIMINATE THE WORST OF OUR WEAPONS, ANOTHER WORD -- TREATY -- HAS NO MEANING AND NO CREDIBILITY UNLESS IT IS PRECEDED BY THE ADJECTIVE "VERIFIABLE."

IT HAS TAKEN DECADES TO GET TO THE POINT WHERE THE CONCEPT OF VERIFICATION HAS BEEN ACCEPTED AND AGREED TO MORE OR LESS GLOBALLY. CERTAINLY IT IS THE HEART OF THE RECENT INF TREATY. IT IS ALSO AT THE HEART OF A DRAFT CHEMICAL WARFARE TREATY WHICH IS FINALLY COMING WITHIN REACH.

THE DIFFERENCE BETWEEN NUCLEAR AND CHEMICAL TREATIES, HOWEVER, IS CONSIDERABLE. ONCE AGREED UPON, VERIFICATION OF THE DESTRUCTION OF INTERMEDIATE RANGE NUCLEAR MISSILES IS FAIRLY STRAIGHTFORWARD, AND CHEATING IS MODERATELY EASY TO DETECT. BUT WITH CHEMICAL WEAPONS, THE TREATY NOW BEING DEVELOPED ASKS FOR NOT ONLY A BAN ON USE, BUT ALSO ON DEVELOPMENT, TESTING AND PRODUCTION. WE ARE ASKING OURSELVES TO COME UP WITH A SYSTEM THAT CAN TRACK THE MANUFACTURE, SHIPMENT AND END-USE NOT OF A COUPLE OF EXOTIC SUBSTANCES SUCH AS URANIUM OR HEAVY WATER, BUT OF COMMON CHEMICALS PRODUCED BY THE MILLIONS OF TONS FOR EVERYDAY USE.

THE SAME CHEMICALS USED IN LAUNDRY DETERGENTS ARE ONLY TWO PROCESSING STEPS AWAY FROM A DEADLY GAS. CYANIDE, PHOSGENE, PHOSPHORUS COMPOUNDS ARE BASIC BUILDING BLOCKS OF INDUSTRY, USED IN THE MANUFACTURE OF EVERYTHING FROM BREAD TO PLASTICS.

THUS, WHERE NUCLEAR TREATIES DEPEND PRIMARILY UPON POLITICAL GOODWILL AMONG NUCLEAR NATIONS, CHEMICAL WEAPONS TREATIES NEED NOT ONLY INTERNATIONAL GOODWILL, BUT A MASSIVE, EXPENSIVE, INTRUSIVE MONITORING OF THE INDUSTRY OF VIRTUALLY EVERY NATION ON EARTH. ANYONE CAN JOIN THE CHEMICAL CLUB. THAT WAS CONVINCINGLY AND GRUESOMELY PROVEN DURING THE IRAN-IRAQ WAR. WE HAVE GOTTEN PAST THE MAJOR DISAGREEMENTS IN THE CONSTRUCTION OF A CHEMICAL WARFARE TREATY. NOW WE ARE AT THE HOW-TO-DO-IT STAGE; THE TASK OF VERIFYING IT EFFECTIVELY WILL BE VERY DIFFICULT.

THE U.S. CHEMICAL INDUSTRY -- SPECIFICALLY THE CHEMICAL MANUFACTURERS ASSOCIATION, WHICH REPRESENTS 95 PERCENT OF THE PRODUCTION OF CHEMICALS IN THE UNITED STATES -- IS PROVIDING ALL-OUT SUPPORT FOR THE DEVELOPMENT OF AN EFFECTIVE TREATY. THE CMA HAS TWO GOALS. THE FIRST IS TO HELP PRODUCE THE BEST POSSIBLE TREATY BY PROVIDING THE NEGOTIATORS OUR KNOWLEDGE AND OUR EXPERTISE.

THE SECOND GOAL IS TO MINIMIZE THE IMPACT OF A TREATY ON OUR INDUSTRY AND ON OUR COMPANIES. WE EXPECT AND ACCEPT INTRUSION -- INSPECTIONS, QUESTIONS, AND YET ANOTHER STACK OF PAPERWORK. A TREATY DEPENDS NOT ONLY ON ACCESS -- ROUTINE INSPECTIONS AND UNEXPECTED CHALLENGE INSPECTIONS. IT ALSO DEPENDS ON DATA -- CARLOADS OF DATA. A CONCERN IS THE PROTECTION OF OUR INTELLECTUAL PROPERTY.

THOSE OF US WHO MANUFACTURE CHEMICALS THAT ARE ONLY A STEP OR TWO AWAY FROM CHEMICAL WEAPONS -- AND THAT MEANS A LARGE NUMBER OF US IN THE CMA - HAVE ALREADY ACCEPTED THE REALITY THAT A GOOD TREATY MEANS SIGNIFICANT LOSSES OF INFORMATION THAT WE CONSIDER CONFIDENTIAL. CONFRONTED WITH THAT REALITY, WE HAD TWO CHOICES - SIT IT OUT OR PARTICIPATE. WE HAVE CHOSEN TO PARTICIPATE. I HOPE IT GOES WITHOUT SAYING THAT RESISTANCE OR OPPOSITION TO THE TREATY WAS NEVER AN OPTION.

CMA'S INVOLVEMENT WITH THE WORK OF DEVELOPING A TREATY GOES BACK A DECADE. WE

HAVE BEEN REGULAR ATTENDEES AT PUGWASH CONFERENCES, AND A SPECIAL COMMITTEE WITHIN THE CMA HAS OPERATED FOR A NUMBER OF YEARS. AS THE PACE OF THE TREATY'S DEVELOPMENT STEPPED UP, CMA ALSO UPPED THE ANTE AND THE SMALL PANEL WAS DISSOLVED AND THE ISSUE WAS MOVED INTO THE TECHNICAL DEPARTMENT OF THE ASSOCIATION, GREATLY EXPANDING THE COMPANIES, PROFESSIONALS, AND RESOURCES DEVOTED TO THE ISSUE.

WHERE WE HAD ONCE RESPONDED TO REQUESTS AND OFFERED OPINIONS, WE HAVE IN THE LAST TWO YEARS BECOME AGGRESSIVE PARTICIPANTS, RESPONDING TO THE FORMAL CMA BOARD OF DIRECTORS' ADOPTION IN OCTOBER OF 1987 OF A POLICY COMMITTING THE U.S. CHEMICAL INDUSTRY TO HELP DEVELOP A TREATY.

- THE CMA HAS ESTABLISHED A CONTINUING DIALOGUE WITH OTHER INDUSTRY ASSOCIATIONS BOTH HERE AND ABROAD IN ORDER TO DEVELOP A CONSENSUS ON OUTSTANDING QUESTIONS.

- MEMBERS OF THE ASSOCIATION PARTICIPATE IN MEETINGS BOTH HERE AND ABROAD WITH OTHER EXPERTS FROM INDUSTRY, GOVERNMENT AND ACADEMIA IN ORDER TO HELP RESOLVE PROBLEMS BLOCKING THE COMPLETION OF A WORKABLE TREATY.

- THE ASSOCIATION ALSO GENERATES AND DISTRIBUTES PAPERS ON MANY ISSUES, INCLUDING THE DEVELOPMENT OF A DRAFT PROTOCOL FOR INSPECTIONS, AND ON METHODS OF SAFEGUARDING THE CONFIDENTIALITY OF PROPRIETARY INFORMATION THAT MUST BE REVEALED TO THE ENFORCING AGENCY.

- WE HAVE HAD VARIOUS GOVERNMENT OFFICIALS VISIT OUR PLANTS, AND EXAMINE THE PROCEDURES WE USE FOR BOTH REPORTING AND SHIPPING.

- WE HAVE HELD SEMINARS ON THE END USES OF VARIOUS "BUILDING BLOCK" CHEMICALS AND MANUFACTURING PROCESSES.

- WE HAVE HAD JOINT MEETINGS WITH GOVERNMENT AGENCY SCIENTISTS AND OUR ANALYTICAL CHEMISTS TO DISCUSS PROCEDURES FOR SAMPLING, ANALYTICAL PROCEDURES, CHAIN OF CUSTODY, ETC.

AT THE REQUEST OF U.S. OFFICIALS, WE HAVE AGREED TO FIELD-TEST THE INSPECTION PROCESS. A CMA MEMBER COMPANY WILL PROVIDE A SITE FOR A MOCK INSPECTION OF A SCHEDULE II SITE. WE ANTICIPATE THAT OTHER COMPANIES WILL NEED TO PARTICIPATE IN OTHER MOCK INSPECTIONS BEFORE AN ACCEPTABLE PROCEDURE CAN BE WORKED OUT.

THE DEVELOPMENT OF AN EFFECTIVE PROCEDURE FOR INSPECTIONS IS OBVIOUSLY CENTRAL TO A GOOD TREATY. SO-CALLED "DECLARED" PLANTS -- THOSE THAT PRODUCE OR USE CHEMICALS THAT COULD BE USED IN WEAPONS-MAKING -- WILL BE SUBJECTED TO ROUTINE INSPECTIONS AND THE ROUTINE GENERATION OF DATA ON WHAT CHEMICALS COME IN, WHAT GO OUT, AND WHERE THEY GO.

BECAUSE WE ARE DEALING WITH SUCH COMMON SUBSTANCES, HOWEVER. THE PROPOSAL HAS BEEN MADE THAT NON-DECLARED PLANTS SHOULD BE VULNERABLE TO ROUTINE INSPECTIONS IN ADDITION TO CHALLENGE INSPECTIONS. THE INDUSTRY BELIEVES THAT THE LIKELIHOOD OF CONTROLLING VIOLATIONS IS NOT NEARLY HIGH ENOUGH TO BE EFFECTIVE IF ONLY DECLARED PLANTS ARE SUBJECT TO INSPECTION. BUT THE MODALITIES OF AD HOC INSPECTIONS ARE COMPLEX. HOW WILL A LOCATION BE SELECTED AND WHAT INFORMATION THE ENFORCING AGENCY CAN DEMAND ARE QUESTIONS THAT ARE A LONG WAY FROM BEING RESOLVED, ASSUMING THAT THE CONCEPT OF AD HOC INSPECTION IS AGREED TO IN THE FIRST PLACE.

FROM THE POINT OF VIEW OF THE SELF-INTEREST OF INDUSTRY AND A COUNTRY, CONFIDENTIALITY REMAINS A CENTRAL ISSUE. IN A MARKET ECONOMY, THE MISSION OF A CHEMICAL COMPANY IS TO SURVIVE IN A COMPETITIVE ENVIRONMENT. THROWING OPEN THE BOOKS ON WHAT WE PRODUCE, HOW WE PRODUCE IT, HOW MUCH, AND FOR WHOM IS AN IDEA WITHOUT OBVIOUS APPEAL. ALL

SUCH INFORMATION IS USEFUL TO COMPETITORS, AND THE WILLY-NILLY PUBLICATION OR LEAKAGE OF SUCH DATA COULD BE VERY DAMAGING.

NOT NEARLY ENOUGH IS CONTAINED IN THE ROLLING TEXT OF THE CONVENTION ON THIS IMPORTANT ISSUE. OUR POSITION IS THAT THE MORE THE NEGOTIATORS KNOW ABOUT THE CHEMICAL INDUSTRY, ITS PROCESSES, MARKETING AND UTILIZATION OF ITS PRODUCTS, THE MORE EFFECTIVE THE TREATY WILL BE, AND THE MORE RATIONAL IT WILL BE IN ITS NEEDS FOR DATA.

IN THE UNITED STATES, THE CHEMICAL INDUSTRY IS HEAVILY REGULATED, SO WE ARE NO STRANGERS TO THE IDEA OF CRANKING OUT DATA FOR OTHERS TO LOOK AT. IF WE VIEW A CHEMICAL WEAPONS TREATY AS A SORT OF GLOBAL SUPER-REGULATION, WE AND OUR COLLEAGUES IN CANADA, EUROPE AND THE FAR EAST HAVE A GREAT DEAL OF EXPERIENCE TO OFFER. TO SOME DEGREE OR OTHER, CHEMICAL PLANTS IN INDUSTRIALIZED NATIONS REGULARLY SUBMIT DATA ON RAW MATERIALS, PRODUCTS, PRODUCTION, PROCESSES, ALONG WITH

ENVIRONMENTAL DATA ON EMISSIONS, LIQUID AND SOLID WASTES.

IN THE CASE OF SOME REGULATED CHEMICALS, WE ARE REQUIRED TO SUBMIT PREMANUFACTURING NOTICES, WHICH AMOUNT TO AN IMPORTANT CLUE TO A CORPORATION'S PLANS QUITE EARLY IN THE PROCESS. THE DATA IS BOTH QUALITATIVE AND QUANTITATIVE, AND ONE CAN GET QUITE A PRECISE PICTURE OF WHAT GOES ON INSIDE A CHEMICAL PLANT BY ANALYZING THIS DATA.

THE PAPER TRAIL FOLLOWS RAW MATERIALS AS THEY COME INTO PLANTS, THE FINISHED PRODUCTS AS THEY GO OUT THE DOOR, AND EVERYTHING IN BETWEEN. THE INFORMATION GOES TO EVERYONE FROM THE BUREAU OF THE CENSUS, WHICH CONDUCTS AN ANNUAL SURVEY OF PRODUCTION AND RAW MATERIAL USE, TO THE ENVIRONMENTAL PROTECTION AGENCY AND A VARIETY OF STATE AGENCIES.

CLEARLY, THE BODY OF KNOWLEDGE WE PROVIDE TO THE GOVERNMENT REPRESENTS A MAJOR PART OF THE MECHANICS FOR ASSURANCE AND VERIFICATION OF A WEAPONS CONVENTION. THE

PROBLEM IS THAT THIS DATA IS PROVIDED UNDER SOLEMN GUARANTEES OF CONFIDENTIALITY. IN GENERAL, GOVERNMENT AGENCIES DO AN EXCELLENT JOB OF PROTECTING THE INTELLECTUAL PROPERTY CONTAINED IN THIS ROAD MAP OF OUR OPERATIONS. ACHIEVING THE SAME DEGREE OF PROTECTION IN A GLOBAL SYSTEM IS NO SIMPLE MATTER.

OF COURSE, MOST NATIONS WHO WILL BE PARTIES TO THE TREATY DO NOT BEGIN TO HAVE THE REGULATORY STRUCTURE THAT EXISTS IN THE U.S. AND OTHER COUNTRIES.

NO COMPANY WILL LIKE THE IDEA OF RISKING PUBLIC DISCLOSURE OF ITS INTELLECTUAL PROPERTY, OR EVEN OF RELEASING DATA TO PARTIES THAT DO NOT RESPECT OR APPRECIATE THE TRADE SECRET STATUS OF INFORMATION. THIS RAISES A NUMBER OF QUESTIONS. CAN WE IDENTIFY REPRESENTATION OF SUCH A COMMISSION THAT ALL PARTIES COULD TRUST TO BE PROTECTIVE OF CONFIDENTIALITY? DOES INTERNATIONAL LAW PROVIDE SAFEGUARDS THAT WOULD HELP TO EASE INDUSTRIAL AND NATIONAL CONCERNS? IN SHORT, IS THERE A WAY TO

CONSTITUTE A TECHNICALLY SOUND COMMISSION THAT CAN BE TRUSTED TO HAVE ACCESS TO SUCH A SENSITIVE DATA BASE?

THE NATURE OF NATIONAL POLITICAL AND ECONOMIC SYSTEMS ADDS ANOTHER LEVEL OF COMPLEXITY TO THE TASK OF DESIGNING A WORKABLE TREATY. IN MARKET ECONOMIES, CERTAINLY IN THE U.S. ECONOMY, THE RELATIONSHIP BETWEEN INDUSTRY AND REGULATING BODIES IS POLITE ENOUGH, BUT ADVERSARIAL. THAT IS, WE ARE REQUIRED TO PRODUCE DATA, AND ACCURATE DATA -- OR ELSE. A COMPANY THAT REPORTS INADEQUATE OR INACCURATE DATA PUTS ITSELF AT RISK. IN A CENTRALLY PLANNED ECONOMY, THE POLICING IS DIFFERENT. PRODUCER AND GOVERNMENT ARE ON THE SAME SIDE. THE COMMON GOAL IS TO PRODUCE. MUCH OF THE DATA WE SEND TO WASHINGTON IS PROBABLY NOT EVEN GENERATED IN PLANNED ECONOMIES AND IN MOST DEVELOPING COUNTRIES. A MANAGER WHOSE JOB IS TO MEET A QUOTA MIGHT BE TEMPTED TO EMBELLISH IN ORDER TO SHOW A LEVEL OF EFFICIENCY THAT THE DATA MIGHT NOT SUPPORT. IN SHORT, THE

SYSTEM OF CHECKS AND BALANCES THAT ARE BUILT INTO AN ECONOMY SUCH AS OURS DO NOT NECESSARILY APPLY IN MANY ECONOMIES.

WITHOUT MAKING INVIDIOUS COMPARISONS, I THINK IT IS FAIR TO SAY THAT THE U.S. CHEMICAL INDUSTRY HAS A BETTER GRIP ON THE KIND OF DATA COLLECTING AND REPORTING THAT MUST UNDERPIN A TREATY THAN MANY OTHER NATIONS DO, SIMPLY BECAUSE WE ALREADY HAVE TO DO SO MUCH OF IT, AND BECAUSE LIFE IN A COMPETITIVE ATMOSPHERE ALREADY DEMANDS EXCRUCIATING ATTENTION TO EVERY DETAIL OF INDUSTRIAL ACTIVITY.

AN ATTENDANT PROBLEM EXISTS IN LESS DEVELOPED COUNTRIES WHERE THERE IS NO REGULATORY PAPER TRAIL, AND WHERE THE NEEDED DATA DOES NOT EXIST AT ALL. WHATEVER VERIFICATION SYSTEM IS DEVISED MUST FIT ALL SIZES. THE CMA IS CURRENTLY WORKING ON A SERIES OF RECOMMENDATIONS THAT ARE DESIGNED TO FACILITATE THE TASK OF DESIGNING A SYSTEM THAT ALL CAN LIVE WITH, AND WHICH ALL COUNTRIES CAN HEED.

IN SUMMARY, THE CHEMICAL MANUFACTURERS ASSOCIATION SEES ITS ROLE AS A TECHNICAL RESOURCE IN THE DIFFICULT TASK OF DESIGNING A PROCESS THAT WILL MAKE A CHEMICAL WEAPONS TREATY WORKABLE. WE ARE HAPPY TO NOTE THAT THE ASSOCIATION'S PARTICIPATION IS WIDELY ACCEPTED, AND ITS INPUT IS CONSIDERED VALUABLE AND CONSTRUCTIVE. THE TASK OF MAKING ONE OF THE WORLD'S BASIC INDUSTRIES PART AND PARCEL OF A COMPREHENSIVE INTERNATIONAL AGREEMENT IS BEYOND ANYTHING EVER BEFORE ATTEMPTED. BUT THE ASSOCIATION IS CONFIDENT IT CAN BE DONE, AND WILL DO EVERYTHING IT CAN TO SEE THAT IT IS DONE.

The CHAIRMAN. Thank you very much indeed, Dr. Carpenter, and thank you all, gentlemen.

Am I correct, as I understand it, in that each of you basically agrees, certainly in broad outline, with the draft treaty? Is there any one of you who does not agree with the draft treaty as you presently understand it?

[No response.]

The CHAIRMAN. So, I am correct in that assumption. I think Dr. Carpenter was very specific, which I appreciate, but what other specific problems do you see that have to be overcome as we move down the road, Dr. Carpenter?

Dr. CARPENTER. Let me use an analogy, if I may, Senator. Over the past 20 years, the environmental laws passed by Congress had as their basis technical solutions. Whenever there has been concern or disappointment on how those environmental laws were implemented, it usually can fall back to one major issue. That is, either Congress or the regulatory agencies or industry or all of the above failed to recognize the technical sophistication, the difficulty, and the amount of resources necessary to make it work. I would submit that a treaty, in a way, is like an international regulation that we must comply with. The technology, the science, must be sound in order for the treaty to be effective and our security to be maintained.

I think that we must assure ourselves that we, within this country, are spending sufficient resources to ensure that the technology is valid for verification and, second, I think we must recognize that the cost if implementing a treaty is going to be much larger than I think anybody has really faced up to yet.

The CHAIRMAN. Thank you very much. Are there any additional comments?

[No response.]

The CHAIRMAN. Does each of you support the idea of unilateral sanctions on our part against countries that use chemical weapons? This is a provision that is in some of the legislation that is before us. Is there any one of you four who disagrees with the idea that we should impose unilateral sanctions?

[No response.]

The CHAIRMAN. Is your view that this imposition of sanctions can have a permanent deterrent value? I know some of us are rather skeptical of sanctions as being an effective device in international relations. We have seen them fail many times. We have seen them work rather rarely. I was just curious if you felt that it had sufficient deterrent value in this regard? Mr. Leonard?

Mr. LEONARD. If I may, Mr. Chairman. I think it has deterrent value, but that deterrent value will erode if we do not bring others along with us, if they feel that, in spite of U.S. sanctions, they can go ahead and do whatever it is they want to do and get away with it and only the United States will penalize them.

The CHAIRMAN. I think the point has been emphasized, too, that one of the great difficulties of this treaty is the verification of it. Because you can verify a large weapon, its presence, but it is pretty hard to verify the manufacture or presence of biological and chemical weapons. Dr. Meselson.

Dr. MESELSON. I would like to say something of a technical nature about verification. It is sometimes said that you could clean up a factory making nerve gas or mustard within a matter of hours or days so that you could not detect what had been done there. I think that might be true if you are not permitted to take samples. But I do not believe that it would be possible to clean up a factory that has been making nerve gas or mustard if you could take the appropriate samples and use the appropriate analytical instrumentation. Today we can detect as little as one-millionth of one-millionth of 1 gram of mustard gas or nerve agent. If a factory had produced such agents, I believe that could be detected long afterward. On the other hand, to look into the future and say whether or not a factory might someday be used to make chemical weapons, that is a different problem.

The CHAIRMAN. Thank you. Dr. Bryen.

Dr. BRYEN. The only thought that occurs to me is if you can find the factories. My experience is that the information you get from intelligence and other sources as to whether someone is engaged in these kinds of activities or not is often awfully flimsy. Many times you end up being surprised.

I have some personal doubts about whether a treaty, like a chemical weapons ban, can actually be verified. I would think it is a terribly difficult thing to do under any circumstances, given the kind of technical means that we have and the natural resistance I think

you would find, to trying to probe repeatedly rumors of potential violations. It is quite complex.

I am not against trying to get such a chemical weapons ban. I would hate to try to rely on it altogether. I would rather try to restrict as far as we can the export of goods and services that could directly aid and abet these kinds of activities. I think that is a much more efficient way, in the short term, to go about trying to get the result we want.

The CHAIRMAN. From a layman's viewpoint, which is the most dangerous and harmful, in your view, biological weapons or chemical weapons?

Dr. BRYEN. It depends if you are the victim or the user, I suppose.

The CHAIRMAN. Which is the longest, which is the most——

Dr. BRYEN. I am absolutely a layman in this respect, but I would be more afraid of an effort to produce biological weapons because we don't know the long-term consequences of those kinds of weapons.

The CHAIRMAN. Would the other three members of the panel agree that biological weapons are even more horrendous than chemical, or not disagree with that?

Dr. MESELSON. Senator, in terms of the weight requirement, the payload requirement there is a very big difference, and it is in favor of biological weapons. Roughly speaking, even with nerve agent, it would require roughly a ton of agent per square kilometer to create a highly lethal hazard to unmasked people. But with biological agents, a thousand times less or even much less than a thousand times less, in principle, could create a lethal hazard. So, that as the quantities go down, that aspect of the threat becomes greater.

On the other hand, we know that chemical weapons stocks exist today. But I do not think that there is any evidence for the existence of stocks of biological weapons today. So, we are ahead on that score. Potentially it could be worse.

The CHAIRMAN. Thank you. Mr. Leonard.

Mr. LEONARD. If I understand what Dr. Meselson says, I think the enormous difference between the two is that chemical weapons do clearly have some military utility in certain circumstances. It has proved very difficult to develop any way of using, delivering biological weapons, and protecting oneself against the consequences, anyway that would have a military value to even a rather callous and dangerous opponent of some sort. So, I think that the danger, the military danger, of the spread of chemical weapons is more imminent. They are being developed in a number of countries for potential military use, whereas, I think biological weapons, with all of the horrors that Dr. Meselson has underlined, also are dangerous to those developing them, and thus have been, a great many years ago now, more than 20 years ago, have been abjured by the United States followed by the other countries.

The CHAIRMAN. Thank you very much, indeed, gentlemen. I would now turn to my partner in these efforts in chemical warfare and the ranking minority member, Senator Helms.

Senator HELMS. Thank you, Mr. Chairman. I am going to ask Mr. Triplett to put some charts up, to which I would invite your attention.

Dr. Bryen, The deluge of reports in the media and otherwise has been very credible that the firms listed on these three charts were suppliers to the chemical weapons facilities in Libya and in other Middle Eastern locations. Do you suppose they made a lot of money off the transactions, these companies?

Dr. BRYEN. I have no way to judge that, Mr. Chairman. I assume they did it for money.

Senator HELMS. I think undoubtedly they did. Equally, it is going to cost a lot of money to repair the damage to national security which these sales have cost. Do you feel that these firms ought to have to bear some responsibility, financial and otherwise, for what they have done?

Dr. BRYEN. Well, I would hope so. I notice that the list is heavily made up of German companies. I am not counting very well, but it looks like two-thirds of it is coming out of West Germany. This has been a problem. Germany has been a problem, not only in respect to chemical weapons support, but also delivery systems in the missile technology area. I know you are going to have a separate discussion of missile technology.

Senator HELMS. Right.

Dr. BRYEN. But we have been endlessly in touch with the Germans about this without any real improvement in the situation. It would be nice if you could eliminate two-thirds of the problem by just dealing, but instead of worrying about international treaties, you could eliminate two-thirds of your problem without worrying about international treaties if we could just reach some kind of agreement with the West Germans.

Senator HELMS. Precisely, precisely. Finally, as you know, some of us have gotten the attention of the German Government. But they still are mighty slow in exacting any sort of penalty on the thing.

Dr. BRYEN. I don't quite understand why, but I have the impression that we haven't really put a first-rate effort into turning the Germans around on this. I think if the President himself brought the matter personally to Chancellor Kohl and made it clear that this was unacceptable and had to change, and had to change promptly, it would change. But we haven't done that. The pattern—every time I was involved in this for almost 8 years—and every time we came up with another problem child like this and attempted to pursue it, we were always pushed down into the lower ranks of the diplomatic contacts. We got weak help from the State Department and even less from our Embassy in Germany.

Somehow we kept protecting the West Germans from news that they already had. I would bet if you check most of these transactions, they had licenses.

Senator HELMS. Well, you are exactly right about that. Last week we had Richard Burt before us for his confirmation hearing. I inquired of him about something like 100 demarches filed by our Government with the German Government. I asked him as pointedly as I knew how what happened to those. I meant no particular criticism of him, but he didn't know. You are exactly right. I think

that our Government has been sitting on its hands in terms of the seriousness of this problem.

Dr. BRYEN. I also think, Mr. Chairman, that if the Germans stop and if the German Government seriously intervened with this industry and said, we do not want you to do this any more, please stop, that you would see that other countries, the Japanese, the Swiss, would stop, too. Because they are all just feeding off that same animal.

Senator HELMS. For the benefit of the young people in the audience, the chairman very politely wanted to make sure that they hear. A "demarche" is, in effect, "a protest or raising a question with another government." As I said to Dr. Bryen, I know of at least 100 of them that were filed with the German Government while Mr. Burt was U.S. Ambassador to Germany and he did not even know what happened to them.

Now, either we are serious about this, I say to all four of our distinguished witnesses, or we are not. We have to make up our minds whether we want to stop it or not. For the benefit of these young people, not only in this country but particularly over there in the Middle East, this poison gas thing is a critical matter. What U.S. Department would you say should have the lead in coordination of policy and enforcement of a chemical weapons, biological weapons control program? I ask that of all four of you.

Dr. BRYEN. I am prejudiced, Mr. Chairman, because I worked in the Defense Department. I felt that we had, first of all, probably in the Government, the most knowledge of these things in terms of our technical expertise. I also think we had some more leverage than some of the other Departments had and that if we used it effectively, we might be able to bring some of our allies on board. Clearly, in the review of licenses, if we do it through export controls, I would like to see at least very strong participation by the Defense Department because of the expertise that is resident there.

By the way, this is in my statement, but I did not read it. For the most part, the Defense Department has played a marginal role in this whole area, if we had been consulted about any of it at all. So, the information, for example, on export licenses that we get is very partial, very limited, and consequently, I fear that quite a lot of these exports, a few of the U.S. companies are listed there, went ahead without any Defense Department check.

Senator HELMS. All right. I think it ought to be said for the record, Mr. Chairman, that Dr. Bryen has done a great job in developing our export control program. You have worked on it for how long?

Dr. BRYEN. Almost 8 years, Mr. Chairman.

Senator HELMS. You have done well.

Dr. BRYEN. Thank you, sir.

Senator HELMS. I, for one, am grateful to you. Dr. Meselson, did you have a comment? Please. Very well, Mr. Leonard first, then Dr. Meselson.

Mr. LEONARD. I just wanted to make a point with regard to this list of German companies, Senator. The German Government was intensely embarrassed by what happened with the Libyan plant. They were embarrassed not only vis-a-vis us, but vis-a-vis their own public opinion, which attacked them very sharply. They assert, I

have some documents in my briefcase that I won't get out and try to read, but they assert that they have brought their export controls up to the level of the United States.

Now, I am not an expert. Dr. Bryen is. I am not in a position to say whether, in fact, that has happened. Those statements were dated in February of this year. Nevertheless, I think the problem remains. It cannot be solved by simply working between ourselves and Germany, because, as Dr. Bryen said, this industry of smuggling illicit military material around is a very mobile industry. It will simply move from wherever it is in Germany to some other place where it can operate without any restrictions whatever if the Germans effectively, as they say they are doing, clamp down on it.

It is, therefore, necessary to operate on a global basis and not merely by swatting each fly as it comes up, whether it is a German fly or a Swiss fly or a Singapore fly or whatever it is that one is going after.

I think, again, if I may just address the problem of coordination within the U.S. Government, I think you have really a rather disgraceful situation in which you have constant squabbles between State, Defense, and Commerce Departments, with each one bringing its own viewpoint to the table and very little attempt to really work out and protect the national interest in the course of this. I would accept Dr. Bryen's point that, in general, the Defense Department tends to be the best informed and to have the most generous means available to do the job. It may be that it is best left or best placed in their hands.

But I think there should be at least a strong voice at the table from the State Department, where U.S. foreign policy is centered, and from the Commerce Department where the concerns of American industry, naturally, have to be reflected. It seems to me that only that kind of a coordinated governmentwide effort can really do the job in a proper way. Anything you can do to help that will be, certainly, a contribution.

Senator HELMS. Thank you. Dr. Meselson.

Dr. MESELSON. Thank you, Senator. As Dr. Carpenter has already pointed out, there is a risk in this kind of consideration of ignoring the technical facts. I have already said it, but I would like to reemphasize. During World War I, 70 years ago, thousands of tons of mustard gas were produced from alcohol, bleaching powder, and sodium sulfide. The technical fact is that a government that wants to make mustard gas can do so, even without outside help.

The chemical weapons treaty offers the possibility of a uniform ban, a uniform legal base, and of a verification system, which both because of what it can find out and because of what the potential user might fear that it would find out, leaves us better off than we are today. The issue is not whether it would allow 100 percent perfect verification. The issue is whether the United States is better with it or better without it.

We must not proceed along diplomatic and political lines without staying close to the technical facts. The technical facts are that export controls alone are not going to do it.

Senator HELMS. Thank you, Mr. Meselson.

The CHAIRMAN. Gentlemen, what do you think needs to be done to move the treaty more rapidly, move the negotiations along, be-

cause, as you know, they seem to be a little bit stagnant for the time being.

Mr. LEONARD. I assume, Mr. Chairman, that this is part of the general review which the incoming Bush administration has been carrying out, and that review now being more or less complete, new guidance will go to the negotiators. I hope that it also will be a subject of very high-level discussions. I know that from my brief visit to Moscow, the Soviets are expecting to hear something from Mr. Baker on this matter when he gets there, and that the high level will then give the negotiators an impetus to move forward.

When the problems are problems that cannot be solved by the negotiators because their instructions are incompatible with each other, then it has to be taken back and resolved by the Secretary of State and the President and by the corresponding officials in other governments. I think that will be the case before we get a treaty.

The CHAIRMAN. Dr. Meselson.

Dr. MESELSON. I have been in Geneva recently. The delegations there are essentially spinning their wheels. The reason for that is the U.S. delegation has no new instructions yet. I presume that situation will change, because it is clear that President Bush is determined to get a global ban on chemical weapons.

What steps should be taken, aside from transmitting that strong signal? The momentum of the negotiations at Geneva is dependent on whether the other delegations there feel that there is momentum generated by the two superpowers. Previously, the Soviet and American negotiators met three times a year, bilaterally, each time for 3 weeks. This is too little. There is enough to talk about. And the increased momentum would move the others away from bickering over secondary issues and toward finding agreement on the various issues that remain to be resolved. This momentum could be enhanced by meeting four times a year for 4 weeks at a time.

Quite aside from what is happening in Geneva, there is another rate-limiting problem. That is, there are some disagreements between the United States and the Soviet Union about fundamental issues, for example, the size of the Soviet stockpile. These issues have to be resolved if we are to sign a chemical weapons treaty.

The way to resolve them is to accelerate the process of bilateral declarations of the two sides' holdings of chemical weapons and of their locations. The next step would be to visit those sites which have been declared to see exactly what is there. Then, if there are remaining concerns, a limited number of challenge inspections should be allowed so as to finally resolve the issue of stockpile sizes.

There are some compliance issues that need to be resolved as well. These, I believe, can be resolved. But we need to get started on that process.

Also, some amount of money, not large, but something like $10 million a year, needs to be provided explicitly for verification research in the United States. This research can be done by various agencies of the Government, the Arms Control Agency, the Department of Defense, the Department of Energy, the intelligence community. But the research needs to be coordinated, and more money is needed. I think the budget that the Arms Control Agency has for

research is so small as to hardly mean anything. I believe it is less than $100,000 a year for chemical verification. Not very promising.

The CHAIRMAN. $200,000 for this coming year.

Dr. MESELSON. That is the total for all verification, isn't it, not just chemical?

The CHAIRMAN. I believe that is correct.

Dr. MESELSON. So, those three things. First, a strong signal, and getting the momentum going at Geneva; second, bilateral efforts to overcome issues between the United States and the Soviet Union and, third, soundly based scientific research on verification technology here in the United States.

The CHAIRMAN. Thank you. Dr. Carpenter.

Dr. CARPENTER. I would like to use Dr. Meselson's remarks as a point of departure and once again come back to the need for a sound technical basis for the treaty.

The capability exists now to have a verification procedure. The reduction to practice where we could feel comfortable that we could go in and inspect a plant, we, the inspection team that would go in and inspect and have some degree of assurance that you are going to find what you are looking for if it is there, that we have some degree of assurance that if it is not there, that if you cannot find it, it is simply not there. Unless we substantially accelerate the amount of effort going in to get adequate verification procedures, we are either, one, not going to get there or we are going to be faced with signing a treaty without adequate assurance that we have got something that we can, that our national security is comfortable with.

The same thing applies just to recordkeeping. There are a number of chemicals that are called group three chemicals in which we are just going to report on a national basis recordkeeping. The difficulty in getting those recordkeeping procedures down is going to take some time. It is not that it is not doable. It is doable. But to get a system that will work on a worldwide basis where you are reporting on everything from pounds to kilos to whatever and translating it into some sort of meaningful data where you can really use recordkeeping to pick up untoward shipments, is going to take some time.

There is simply not any real effort being made toward reducing these to practice. Until you reduce it to practice, you do not have a regulation that works.

The CHAIRMAN. Thank you. Dr. Carpenter, a further question here. Could you comment, from the perspective of your industry, the chemical industry, on the feasibility of the approaches taken in our bill S. 195 as well as in the other two bills?

Dr. CARPENTER. Mr. Chairman, let me come back to a premise in my talk and say that we think that for us to have any sort of effective treaty or any measures taken to prevent proliferation, they must be intrusive. Once you say they are going to be intrusive, then you are going to have to say, at a minimum, you have risk of having damage to the industry, if not actual, in fact. But we are willing to accept that. We know we have to have intrusion in order to prevent proliferation and have an effective treaty. Of the three bills, S. 195 has the least impact on the chemical industry. We need

to study those bills and work with your staffs more to make sure we understand how those will actually be implemented.

The CHAIRMAN. When you say the least impact, do you mean the least adverse impact?

Dr. CARPENTER. Yes, the least adverse impact, thank you.

So, we have looked at the three bills and see that S. 195 does not have the adverse impact of the other two. Let me voice one point of concern dealing with Senator Helms' bill, if I may.

Part of the bill deals with revocation of patent rights and so forth. Once again, we support the intent and the efforts to stop the people that are listed there, but the problem of protecting intellectual property on a worldwide basis is one of the major problems of any industry that is committing a substantial part of its efforts toward research.

I must say, I have some concerns about the possible retaliation that might take place, whereas it might do what you set out to do, but we kind of look at it as maybe burning down the house to have roast pig. There might be another way of getting their attention that does not have quite the damage to the intellectual property system that the patent implications might have, Senator.

The CHAIRMAN. Thank you very much. I have no further questions at this time. I would turn to Senator Helms.

Senator HELMS. Well, all of that may be so. But we have got to start somewhere. My impression is, just like Mark Twain said about the weather, "Everybody talks about it, but nobody does anything about it." Maybe we will come to the conclusion that we cannot do anything about it. If all men were angels, we could solve the problem tomorrow morning. But they are not.

Dr. Meselson said that nothing need go to a Third World country which wants to make mustard gas. Now, I note that the technology level of these countries is very low. For example, I was kind of amused, amused is probably not the right word, but I was intrigued by the fact that Mr. Qadhafi even required one of these German firms to come to Libya to install window frames for him. Did you read that?

[Dr. Meselson nods affirmatively.]

Senator HELMS. Now, we do have some practicality on our side. Mustard gas is toxic. It needs special handling. That makes the special handling and transport equipment at least noticeable. So, we have some things going for us.

Now, I take no pride in authorship in my legislation, but I just feel we have to start somewhere. We have to start somewhere talking loudly enough to make people believe that we are concerned. Maybe we need to make our own folks concerned. That may well be the problem.

This is very interesting testimony, Mr. Chairman. I appreciate these four gentlemen coming. I do not want to get too technical, but is the word "atropine," is that the way you pronounce it?

Dr. BRYEN. Yes.

Senator HELMS. What is that? What is an atropine injector? How does it work?

Dr. BRYEN. Well, the injectors that you are referring to, I think, are a militarized version of a material that is used as an antidote to nerve gas. I think the case you are raising was a request that we

had about a year ago, no, I am sorry, 2 years ago, to allow the export of between a 500 thousand and 1.5 million atropine injectors to Iraq. It was a case that I was personally involved in. There was an application by a United States company, not the manufacturing company, but by a United States company that had requested an advisory opinion from the Government as to whether or not it was allowable to export these atropine injectors to Iraq.

The State Department at that time thought it was all right, basically saying, "Well, it seemed to them it was a defensive, almost humanitarian kind of export." My own department was divided on the issue. The Army thought it was all right until they did a little hard thinking about it. The policy people in what we called international security affairs, the people who had responsibility for that region, thought it was all right. My own technical people thought it was all right, too.

I didn't think it was all right. I thought it was a dumb thing to do and a dangerous thing to do, mostly because the only people that had nerve gas that we knew about at the time were the Iraqis, and the only conceivable reason that they would want the e products was to allow them to operate with impunity close up against the Iranians or the Kurds or whoever they were using it against as some means of protecting themselves from its effects.

Now I do not know how efficient or effective atropine is. As I said, I am not a scientist. I am a layman on these things. Maybe it does not work at all. But if you believe it works, then you are more willing to use these kinds of weapons on the battlefield or against civilians. I think they are mostly using them against civilians.

So, I objected to it. I got myself into quite a little quarrel with the State Department and people in my own department over it. But I was stubborn and decided just to stick it out and keep saying that it seemed to me improper for us, first of all, because we had said we would not export any munitions to either Iran or Iraq because that was our national policy. Since this stuff was classified as a munition, because it was in a military-type container, I stood firm based on the original policy and got away with it, I might add, in the end.

But it shows you that the rules and regulations that we have are pretty weak and unclear, and that quite a lot of people would have exported this. I think that if it had gone the normal route, it would have been exported. Happily, my staff had enough commonsense to say on this one, that there is something here we do not like, so they showed it to me. But otherwise, everybody had approved it.

Senator HELMS. Mr. Chairman, may I take a poll of our panel?

The CHAIRMAN. Certainly.

Senator HELMS. Yes or no, the anthrax disaster in the Soviet Union a few years ago, was this caused by an accident at a biological weapons facility or was it caused by tainted meat? I have heard it both ways. What is your opinion?

Dr. BRYEN. Well, I do not think there is much doubt about it that there was an effort to produce, that they were in a military production mode. It was a closed facility that had an accident.

Mr. LEONARD. I think I disagree, Senator. I think it was a tainted meat episode that got loose. It was a public health embarrassment and a disaster to the Soviet authorities.

Senator HELMS. I know how you feel.

Dr. MESELSON. Do you?

Senator HELMS. I think I do.

Dr. MESELSON. Well, I have two parts to the way I feel, Senator. I am fairly convinced that the epidemic itself was a natural occurrence. I was privileged to take part as an outside adviser in the intelligence community when we were concerned about this. But even before the epidemic of April and May 1979, we were concerned about a facility there in the city of Sverdlovsk, which is clearly a military biological facility, many buildings, security fences, et cetera. That facility predated the epidemic. I do not believe the epidemic had anything to do with the facility, but I am concerned to know what did that facility do and what does it do today?

This is one of the issues I had in mind when I said that there are some issues between us and the Soviet Union that need to be brought out into the open and resolved. That is one of them. What does that facility do, and what did it do?

Senator HELMS. Dr. Carpenter.

Dr. CARPENTER. Senator, I am probably the least informed of the four.

Senator HELMS. Except for me.

Dr. CARPENTER. So, that leaves me with all sorts of license. I am hard pressed to see how that wide a disaster could occur from tainted meat. Now, it maybe could have occurred, but I am hard pressed to see how that could happen. There is probably a thread of events.

Senator HELMS. That is why I go ask the Doctor, "Boy, there must have been a pile of tainted meat over there."

Dr. BRYEN. I think the meat man would be in jail by now if it were.

Senator HELMS. Mr. Chairman, one more question in my little poll. Then we will let these gentlemen be. Do you think nerve gas was used by Iraq, either on Iranian soldiers or on Kurdish civilians?

Dr. BRYEN. I gather it was used, Mr. Chairman. I do not know how extensively, but I gather it was used.

Mr. LEONARD. Yes, I think it was.

Senator HELMS. Dr. Meselson.

Dr. MESELSON. What was the question, Senator? Was it nerve gas that was used by Iraq on the Kurds?

Senator HELMS. Yes. That was the question.

Dr. MESELSON. Samples that are indisputably nerve gas were picked up. The samples from the soil in Kurdistan that were collected by a British journalist were mustard gas, which does not cause sudden death. The quick death of the people who we saw in photographs could have resulted from nerve agent, but I do not know for sure. There is not enough evidence in the public domain to say what killed those people in Halabja, for example. Clearly, nerve gas has been used. Clearly, mustard gas has been used. What killed those people I cannot tell.

Dr. CARPENTER. I have no comment.

Senator HELMS. Mr. Chairman, thank you very much. Thank you, gentlemen, not only for answering my questions but for being

here this morning. It has been most interesting testimony. I appreciate it.

The CHAIRMAN. Thank you very much, Senator Helms. Senator Sarbanes.

Senator SARBANES. I am interested in how many nations would have to put tight and effective restraints on the transfer of chemicals or chemical weapons in order really to put a crimp if not a total halt to this, or is the technology available to almost everyone?

Dr. BRYEN. It depends on the technology, to some extent. There are all kinds of aspects to the delivery system, the protective gear, the actual chemicals themselves. You are going to get a different collection of nations depending on how broad the list is that you decide you want to use in the control. There are, what, 19 nations that are involved in the current chemical control effort. So, the assumption there is that there are essentially 19 producer nations for at least the basic feed stocks. But you also have some that are more specialized.

Senator SARBANES. Let me ask this question here. Does everyone agree that that assumption is an accurate or appropriate one?

Mr. LEONARD. I think, Senator, there are other industrial nations besides the 19 that would be a minimum component of any such group. The Soviet Union is not a part of the 19, nor are the East European countries, nor is China. So, I think that the minimum number for an effective control regime even on the most limited list of substances would be substantially larger than 19.

Senator SARBANES. Do you have any idea how large a list we are talking about?

Dr. MESELSON. There is no such list, Senator. What if Pakistan wants to make chemical weapons? What if India wants to make chemical weapons? If nobody else helps them, they can still make chemical weapons themselves. Iraq now has acquired an indigenous capability. She does not need anybody's help. If Libya wanted to make chemical weapons strongly enough, mustard gas, it does not need anybody's help.

It is a myth to believe that one can stop a leadership of a country which has decided it wants to have chemical weapons or a terrorist group that has made that decision by export controls. Export controls make it harder to get chemical weapons. They may slow things up for awhile. But they could also be counterproductive.

What if Egypt is worried about Libya having chemical weapons? Those two countries are not good friends. In the past, Egypt might have said to itself, "If the threat gets serious, we will buy thiodiglycol from the United States or West Germany or Japan." Today with export controls on thiodiglycol, maybe Egypt has to say, as a hedge, "We had better develop our own indigenous thiodiglycol capability."

Export controls are a natural thing to think about in facing a problem like this. But when you look at them from the point of view of the chemist, they have limited value. By themselves, they are likely not to be successful for very long.

Dr. BRYEN. But there have not really been any export controls to control stuff, so it is not entirely fair to say that it will not work. Some of it cannot be controlled by it, but some of it can be.

Senator SARBANES. Dr. Meselson, what is the logic of your position, then, that there is really nothing that can be done?

Dr. MESELSON. There has to be a worldwide chemical ban that imposes a uniform standard, that allows us verification privileges that are intrusive, that isolates those who stand outside of it.

Senator SARBANES. Do you think such a treaty can be verified?

Dr. MESELSON. Yes. I think that the real question, Senator, is not whether the verification can meet some hypothetical standard, but rather whether the United States is better off with such a treaty or without such a treaty. I think the degree of verification, in other words, the likelihood of catching somebody if they are doing something, and also the effect of deterring somebody because he thinks he might get caught can be made more than adequate.

What we are offered in a treaty is a uniform global system with intrusive verification provisions. The price to us for obtaining such a treaty is getting rid of our chemical weapons. That is the real issue. How do we balance those two things? That is a long discussion. But that is the real question, not the question of whether you can match some hypothetical measurement standard.

Senator SARBANES. Doesn't forcing a country to consider relying on its own technology in itself constitute an impediment so that the denial of access abroad, while it could be, as you assert, gotten around, nevertheless represents an initial threshold that has an inhibiting effect? It may not have an absolute effect, but it may well have an inhibiting effect. What is wrong with that? Why should this technology or material be permitted to be transferred?

Dr. MESELSON. Nothing is wrong with it. The chemical agents themselves surely should not be for sale. There should be no place where you can go and buy nerve gas. That is clear. It has no commercial use, anyway, so that is not going to harm anybody's legitimate peaceful trade. But now you get to the precursors.

I am sure you are more aware than I am of all of the pros and cons of starting to apply controls to precursors which have widespread commercial use. There is nothing wrong with trying to control these things. It helps you put the spotlight on. Maybe by now Libya, if they wanted, could make, and I am sure they could, mustard gas. I do not know about nerve agent, but the glare of publicity has been focused on them, so that was good. So, these controls, certainly for finished agents, are very useful. For precursors, I think it remains to be seen how useful they will be.

I am not arguing that we should not maintain these controls that we have. I am saying that we cannot expect them to do the job over the long term. They will not. For that, we need an international treaty which allows intrusive verification.

Mr. LEONARD. Senator, may I offer a point on this point?

Senator SARBANES. Yes.

Mr. LEONARD. Dr. Meselson is quite right in his warning that export controls are not going to solve the problem. But I do not want it to be lost sight of that they are a useful contribution.

Senator SARBANES. But that is not the question. The question is not whether it will solve it. The question is whether it will better the situation.

Mr. LEONARD. It clearly is desirable.

Senator SARBANES. If it will better the situation without adverse consequences, why should it not it be done, even if bettering the situation is short of solving it? I do not understand that.

Dr. MESELSON. It should be done, and it is done.

Senator SARBANES. I do not understand that kind of reasoning. I do not see why the burden has to be to show that this approach will "solve the problem." It seems to me that what you have to show is that this approach has more pluses than minuses to it and on balance will put you in a better position than now.

Mr. LEONARD. That is correct, Senator. What I would like to do is just suggest a way. Senator Helms was asking earlier, where can we start? We have to start somewhere.

It seems to me that, in fact, we have started. There is under development a list of chemicals whose export will be prohibited. The transfer will be prohibited. It is found in one of the annexes of the draft treaty. It contains the nerve agents themselves, and there is a list of precursors as well. Once a treaty comes into effect, there will be no export of those by any nation that is a party to the treaty. That transfer will be prohibited. It seems to me that is a way to begin to start to use that list and develop.

Dr. Bryen has pointed out that we do not have a CW list today as such. We do not have a list of substances whose export is banned or controlled because they are related to chemical weapons. It seems to me the treaty list which is being developed there is a useful starting point and one that could be used by your staffs and the staffs of other congressional committees in this and the other House to develop a list that would then be, if I might put it this way, salable to the Australian Group and to other governments as well.

In the talks that I had in Moscow the Soviets underlined their own commitment to prohibit totally the transfer of chemical weapons, but they say, we want to know exactly what it is we are committing ourselves to. We do not want to sign some agreement that is vague on the exact terms and on the substances that are to be controlled. It seems to me that is a way to proceed, to get this list and get working on it internationally as well as within the U.S. Government.

Senator SARBANES. Dr. Carpenter.

Dr. CARPENTER. Senator, let me make a point from the viewpoint of industry. At no point in time will there be a single measure that will be satisfactory, not today when we do not have a treaty, not at some point in the future when we do have a treaty. From considerations of national security, to trying to prevent the proliferation even where our national security is not the main issue, we will have to use a number of different ways to determine that chemical weapons are not being produced, used, or stockpiled. Right now, today, I think until such time as a treaty is in place, this Government will need to do a number of things to ensure it.

Now, perhaps we are using different terminology, but the chemical industry is dealing with a list of chemicals right now that are subject to regulation in terms of exports and equipment also. So, there are some measures that are in place now that we, in the industry, certainly CMA, are doing our best to see to it that these are implemented as effectively as possible.

One of the things we have going against us on making this thing really effective is the increased sophistication of chemical processes; 15, 20, or 30 years ago, you could walk into a plant and, by looking at the protective measures being taken, you could say, "Ah ha, they are probably making organophosphate insecticides, which are related to the nerve gases. Those are pretty potent, and we have to take these measures. As you would go to another place where they were making aspirin, the measures would not be nearly as severe.

With the increased emphasis on worker health and safety and the increased emphasis on byproducts, discharges into the air and water and solid waste, for all of these reasons, we are improving our operations, and for increased effectiveness in terms of yields, costs, and so forth. The sophistication of worker protection measures and the equipment, the quality of the equipment, the construction materials being used, that difference has blurred. They have come closer together, so that equipment being shipped out for very innocuous reasons, because of the quality of construction and the new designs can very well be used for chemical weapons.

That distinction, or rather, that coming together, that blending did not exist 10 or 15 years ago. That is only going to get worse. If I talk about it from an ability to control exports, shipments of other countries, it just makes it a lot more difficult. Now then, that does not give us an excuse not to try it.

Senator SARBANES. Let me ask you this question, if I could, Mr. Chairman.

The CHAIRMAN. Absolutely. I have had my questions.

Senator SARBANES. It is an interesting point. If you were a reasonable observer looking at the sales of these chemical companies in the major industrial countries, in what percentage of the sales going for an end use involving chemical weapons could you have looked at the sale and said, "Something is amiss here. This just does not ring right."

Now you are not in a company making such sales. You are in the company that is pretty rigorous about not doing it and would turn away a sale if it thought that was the purpose it would be used for—I assume there are such companies. You say, "Look, I did not know where it was going. I mean, I sold them an item for what I thought was a perfectly reasonable use, and lo and behold, but I found out that country X was using if for this purpose." It is a real shocker to me.

Now, on the other hand, in what percentage of instances would you have said, "Whom are you kidding?" You know this was not bona fide in the normal bona fide course of trade. How much of that is there?

Dr. CARPENTER. Well, certainly there are a number of times when you can, Senator. When a chemical is used to make a pharmaceutical and the total world supply use of that chemical is in pounds, and somebody just ordered hundreds of tons, they are counting on a real epidemic or they are playing games with you. So, certainly there is an opportunity to pin down that.

Senator SARBANES. Would you say at this point that in most instances that is the case?

Dr. CARPENTER. No, Senator, I would not. What we have to do as industry and as a government implementing these things is we

have to train our people to look for those situations. But what happens is, as we drop the sources of, say, thiodiglycol, as Dr. Meselson said, these people move one step back in the chain, or in the sequence of production.

Senator SARBANES. But it is a little like the S&L's. Certain S&L's were paying these huge rates. All the reasonable people in the business looked and said, "You know, no matter how well managed they are, they cannot be paying such huge rates without engaging in some very tricky practices."

That is, of course, exactly what was happening. But no one else in the industry really was prepared to blow a whistle on that practice, so it just happened, and the problem worsened. You may have a few bad actors creating a problem for the whole industry.

Dr. CARPENTER. Oh, I think so. Well, there are other warning signs. For instance, one of the ones that one of our member companies turned over to the Federal authorities is, they wanted the material to be shipped airfreight. The airfreight costs were five times the cost of the chemical. Now, right off the bat, you know that arouses your suspicion. So, the company in question reported this to the authorities.

But, coming back to my point, I do not want to try to get out of the situation, because we have to deal with it. We recognize that. But, as they do move one step back and say, instead of A, which makes B, which makes C, and C is the chemical weapon, instead of getting B, they are now going to order A that will make B that will make C. Then you get into an item of commerce that is used in literally hundreds of thousands of tons on a worldwide basis. Just the ability to track it, your margin of error, on a worldwide basis, is enough that Iraq or Libya could make enough poison gas to meet all of their demands.

So, we really have to work hard at establishing a thorough method or recordkeeping on what we call schedule three compounds, which are things like phosphorous oxychloride, PCL_3, HCN, and phosgene. These are building blocks of commerce. If you say, we just will not make those, we would almost go back to an 1890's culture. So, we have got to find a way to track and monitor and prevent these things from getting in the wrong hands. But we have got to recognize that a single method like this is not sufficient. It is going to take national intelligence sources. It is going to take, I do not know, remote sensing satellite monitoring, it is going to take regulatory reporting and it is going to take inspection of facilities.

Senator SARBANES. Which supplier countries would you say are most lax about where the material is going, and do not really care? Or is it not a matter of countries, but rather particular private offenders, firms that offend within each and every supplier country?

Dr. CARPENTER. Well, if you look at the list that was put up over there, recognizing some of the names, I would say that three-fourths of those names are equipment people as opposed to chemical people. A substantial number of the chemical names are not basic producers. They buy from a basic producer and then play games with it. But, once again, all of us that produce materials that can be misused into this are going to have to participate in the efforts to control it. I do not care whether it is equipment or

chemicals or whether you are a supplier or even a user. I think that is something that has not been focused on now.

We can get the producers of the chemicals. We can say we will do all the things we should do. Yet, when you sell this to everything from the electronics industry to the automobile industry, to the pharmaceutical industry and they have large quantities of this on hand and sometimes it is resold, we are going to have to get them under the umbrella of this thing also.

Senator SARBANES. Thank you. I have gone on quite a bit. Did anyone else want to add anything on this particular point? Then I will desist, Mr. Chairman.

Dr. BRYEN. I would just add that there is a number of brokers who trade in these commodities. Some of them are not very savory. But the profile of who wants what and why they want it is perfectly clear.

We have been having a discussion about how easy it is to make mustard gas. But it seems like most of it is being made with lots of help from West Europe, Japan, and some from the United States. In West Europe it is almost all Germany. So, if we really want to get at this, Senator Sarbanes, it seems to me the first thing we ought to do is talk to our German colleagues and see if we can reach an agreement with them about how we are going to proceed. The second thing we can do is draw up a list of the goods that we think need to be controlled and then go about controlling them. But that is just a short-term solution.

Senator SARBANES. Well, maybe something to do would be to work an arrangement with two or three countries which would be quicker and easier to get and use that as a standard, and then work to broaden it. You know, two or three countries would obviously be the United States and a couple of others that we perceive at the moment as being very much in the supply process.

Dr. BRYEN. If we could strike a deal with the Germans and the Japanese today, I think a lot of this problem will go away. The rest of it you can get at. Otherwise, we are going to wait for a very long time for an international agreement to be reached, which may or may not be enforceable or verifiable. But in any case, it is going to take an awfully long time. In the meantime, there will be a lot of dead people around.

Senator SARBANES. I want to thank the panel. Mr. Chairman, I would be remiss, although I did not do it at the outset, if I did not now say a word about the very strong leadership which you have exercised on this issue over a sustained period of time. I know it has been very high on your agenda and you have been pressing for it. I regret that people have not listened earlier, but I am hopeful they will listen now. I notice the administration now has adopted a more forthcoming position on this issue. We are not exactly sure, I guess, how forthcoming, but in any event, it represents a change. I certainly look forward to working with you and under your leadership as we try to move ahead on this issue.

The CHAIRMAN. Thank you very, very much, indeed. I appreciate those words and your help. I am delighted, too, at seeing the administration be supportive of this concept, which was not the case a while back. I thank all of you for being here.

I have one question only which maybe one of you could answer. Why is it that there are so many West German firms that have been naughty people, but I do not see any, or just one East German firm, and yet Germany, as a whole, took a leadership role in the chemical industry?

Dr. BRYEN. Senator, they have better export controls in East Germany, obviously.

Mr. LEONARD. I think there is an additional element, Senator, Mr. Chairman. It is that the Soviet Union has a monopoly on the chemical weapons in the Soviet bloc, and it has not encouraged any sort of initiatives to become producers or merchants in this area outside. They state that their position is absolutely no exports of any sort.

Senator SARBANES. Actually, the fact of the matter, and if my impression is not correct, I would like it to be corrected, is that the Soviets have been relatively restrained on the proliferation issue. I am not talking about what they have themselves. That is a separate problem that we have to deal with, I mean but allowing its transfer to others. Is that correct?

Dr. BRYEN. You better check the Afghanistan situation on that. I read reports recently that they had turned over some chemical weapons to the Afghan Army for use against the insurgents. So, I would not be totally sure they have been all that good and well-behaved.

Mr. LEONARD. I would just make the point that we were told on this recent visit to Moscow by very high-level officials, several of them, that the Soviet Union categorically prohibits the export of chemical weapons and has not transferred them to any other country, friend or nonfriend. I cannot assert whether that has really been the record, stretching indefinitely back into the past. But it is clearly a strongly held position at the present time. It is one that I think we ought to build on.

The CHAIRMAN. Thank you very much. I would turn to Senator Pressler to wind up.

Senator PRESSLER. I would like to ask Dr. Bryen about the need for a COCOM for chemical weapons.

Dr. BRYEN. I think that is a practical idea and something that we ought to pursue. I would not make it the first thing on my agenda, but I would certainly plan for it. I think the first thing on the agenda has to be to go to the Germans and the Japanese in a very, very serious way at the highest level and reach an agreement with them and implement controls between us now. Then move ahead to try to broaden the effort so that we could bring in other players.

I believe that there is a genuine desire in the world today to do something about chemical weapons. I think if we show some real leadership in this politically, we could get results pretty quickly.

Senator PRESSLER. Thank you very much.

The CHAIRMAN. Thank you. Mr. Leonard.

Mr. LEONARD. Could I just comment on the COCOM idea? I think something along these lines, and I agree with Dr. Bryen, can be useful and I think is under development in a way. But if the objective of COCOM is to create two sets of states in the world, those that have and those that do not have chemical weapons and to preserve the one set indefinitely and keep the other set indefinitely

without chemical weapons, then I think it will simply be a flat failure. It has to be an interim measure that works to prevent further proliferation while the basic problem is being worked on through a universal treaty of the sort that we are negotiating in Geneva.

The CHAIRMAN. Thank you very much indeed. Thank you, gentlemen, for being so helpful to us. I think this hearing and the dialog that we have had today will be very helpful to us indeed as we move ahead in this legislation.

This meeting is adjourned.

[Whereupon, at 12:47 p.m. the committee adjourned, subject to the call of the Chair.]

APPENDIX

PREPARED STATEMENT OF WILLIAM F. BURNS, DIRECTOR, ARMS CONTROL AND DISARMAMENT AGENCY

I am pleased to have the opportunity to meet with you this morning to report on the results of the recent Paris Conference on chemical weapons use. As you know, the Conference was held January 7 through 11, and involved the participation of 149 states. The United States delegation was led by Secretary of State Shultz. I served first as his deputy, then led the delegation upon his departure from Paris January 8. Our delegation included Senator Nickles and Representative Cheney, as well as representatives from Executive Branch agencies.

Mr. Chairman, on September 26 of last year, President Reagan called on Parties to the Geneva Protocol and other concerned states to convene a conference to consider how to strengthen the norms against the use of chemical weapons in violation of international law. This call reflected our alarm over the dangerous spread and resurgent use of chemical weapons. The Administration's objective was to use the proposed conference to reverse the erosion of international norms against the illegal use of chemical weapons, norms that previously had stood for many years.

President Mitterrand of France, whose Government serves as Depositary Government for the 1925 Geneva Protocol, echoed our concerns and offered to host the proposed conference in Paris. Through the extraordinary efforts of the French Government, the conference was organized and held in only four short months.

Rarely has the community of nations responded so quickly and with such common resolve to an urgent international problem. Nearly every country on the globe was represented at the conference, more than half at the Foreign Minister level.

The conference has forged a powerful global consensus. In their plenary statements, and in the conference's final

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declaration, which was adopted by consensus, the participating nations took a forceful and principled stand against the illegal use and dangerous spread of chemical weapons. They also endorsed the ongoing efforts of the Conference on Disarmament in Geneva to negotiate a comprehensive, effectively verifiable, and truly global ban on the development, production, and stockpiling of chemical weapons.

The purpose of the Paris Conference was not to single out individual nations for past use of chemical weapons. Indeed, had this been our objective, several key states in the troubled Middle East would not have attended. Instead, the Conference was intended to be forward-looking: to condemn use generally and to reaffirm worldwide political commitment to the international norms against illegal CW use. Nor was the Conference intended as a negotiating forum in which to revise these international norms. The task instead was to restore the authority of existing constraints, chiefly the Geneva Protocol.

In addition, there were some other areas where the United States hoped progress could be made, as outlined in Secretary Shultz' keynote speech:

- International support for the UN Secretary General's investigations of allegations of CW use.

- Support for appropriate action, in conformity with the United Nations Charter, in the event of future illegal use of chemical weapons. We encouraged nations to consider Chapter Seven sanctions in such cases.

- Support from the international community for humanitarian aid for the victims of CW use.

Over a hundred nations addressed the plenary during the five days of the Conference. They ranged in size from the major powers to the tiny island states of the Pacific. With

remarkable unanimity, they urged that the Conference go beyond mere statements of concern -- that the Paris Conference adopt a final declaration which substantively addressed a number of issues.

The plenary statements had several common themes:

- Participating states reaffirmed their commitment to the Geneva Protocol. Moreover, fourteen states have announced their intent to become parties to the Protocol.

- Participants stressed the importance of the ongoing negotiations in Geneva and the need to achieve a total ban on chemical weapons. In so doing, they stressed that such a ban must be comprehensive, truly global, and effectively verifiable. And there was a widespread expression of a desire to contribute to the CD negotiations.

- Nations repeatedly underlined the importance to the process of the Secretary General's investigations into chemical weapons use.

In addition, nations from a wide variety of regions and political groups called for imposition of controls on the export of CW-related materials, for the purpose of curbing the dangerous spread of chemical weapons.

The final declaration of the Paris Conference reflected US objectives in these important elements:

- The Conference condemned the use of chemical weapons in violation of international law and existing norms.

- Participants stressed the importance and continuing validity of the Geneva Protocol.

- Participants expressed grave concern over the spread of chemical weapons, and called on all states to exercise restraint and act responsibly.

- The Conference reaffirmed full support for the Secretary

General in carrying out his responsibilities for investigating reports of chemical weapons use, and expressed support for appropriate and effective actions under the United Nations charter.

- Participants also supported humanitarian assistance given to victims affected by chemical weapons.

- The Conference called for negotiation of a global, comprehensive, and effectively verifiable ban, of unlimited duration, on all chemical weapons. The declaration recognizes that in order to be effective, a CW ban must be universal, and it calls on all states to become parties to a convention as soon as it is concluded.

In the plenary sessions and in debate over the text of the final declaration, a number of Conference participants sought to link chemical weapons with nuclear weapons, arguing that the former cannot be eliminated while the latter exist. The US and many other countries firmly resisted this purported linkage. In addition, there were calls for a moratorium on chemical weapons production. In response, the US delegation described the need for the US to retain a credible retaliatory CW capability for the purpose of deterring CW attacks against US and allied forces, and preserving the incentive for others to negotiate seriously on a CW ban.

Agreement on a final declaration was not essential to US objectives at the Conference. The fact that 149 states heeded the call to attend the Paris Conference and address themselves to the dangers of chemical weapons use and proliferation put these issues on the international agenda. The real result is that any future CW use will be severely condemned by the nations of the world and that their consciousness level has

been raised with regard to the dangers of CW proliferation and the need for an effective global ban on such weapons.

The final declaration is nonetheless a remarkable achievement, inasmuch as 149 states put aside specific extraneous concerns, so prevalent in fora of this nature, in the interest of obtaining a consensus declaration. Had the US delegation borne the full responsibility for the words of the declaration, we would have explicitly reflected the need for strong export controls as a nonproliferation measure. Greater emphasis would have been given to consideration of sanctions against violators and condemnation of use would have been more explicit. But we shared responsibility for the declaration with 148 other nations, and therefore consider the declaration as adding to the success of the Conference.

The Paris Conference has drawn a line under the past tragic events in the area of chemical weapons. We have started a fresh page. The final declaration, and the commitments expressed in plenary statements, give us a good basis for future work -- our efforts to prevent future illegal use of chemical weapons, efforts to halt the dangerous spread of these weapons, and our efforts to achieve what we hope will be the one reliable solution to all these problems, a universal, verifiable ban on chemical weapons. The family of nations recognized in Paris that these goals transcend any considerations of national politics or ideology. Our task now is to build on the success of Paris.

PREPARED STATEMENT OF DR. WOLFGANG SCHÄUBLE

Today's debate concerns the question of whether and to what extent German companies were involved in the construction of a poison gas production facility at Rabta in Libya, what information the Federal Government received

on this matter and how it and the relevant authorities followed up on this information.

Unfortunately, this problem is not a new one. For years now it has been possible to detect efforts by Third World countries, especially by ones in North Africa and the Middle East, to obtain facilities for the production of chemical weapons and hence for their use. These countries are dependent on equipment and technology from industrial nations. Their governments are regularly confronted with the question of whether one or the other of their companies are involved in such production.

The Federal Republic of Germany is the only country in the world to have renounced the production, transfer and use of chemical weapons. The present Government and its predecessors have never left any doubt about the fact that chemical weapons are an abhorrent means of warfare requiring international prohibition. Aware that national efforts alone do not suffice to prevent the development of such weapons, the Federal Government has constantly - most recently at the international chemical weapons conference in Paris - advocated a global ban on this class of weapons.

The Federal Government is thus all the more interested in preventing participation by German companies or experts in the manufacture of chemical weapons or in bringing them to justice for offences already committed. The Foreign Trade and Payments Act makes it possible to do so, though the options are very limited in legal terms:

- merely the exportation of certain products specified in lists is prohibited and hence punishable,
- the exportation of products not included in those lists is not prohibited and thus not punishable.

As you will recall, the Federal Government failed in the 1970s in its attempt to prevent the exportation of sensitive goods to Iraq by a German company because the products were not included in those lists at the time. In the light of that experience, the present Federal Government extended the lists accordingly in August 1984.

The application of the criminal provisions also requires that there be incontestable legal proof that the suspect acted illegally. Under section 42 of the Foreign Trade and Payments Act, the Customs Criminological Institute (ZKI) attached to the Federal Ministry of Finance is responsible for investigating

and prosecuting violations of foreign trade and payments legislation. The ZKI is an auxiliary organ of the public prosecutor's office. Ever since the receipt of the first information, the ZKI has been kept fully informed and has conducted on its own responsibility the investigations required under foreign trade and payments legislation. For technical and legal reasons, investigating authorities in a State based on the rule of law must perform their functions on their own responsibility.

I would now like to describe the sequence of events and the action taken on the basis of data supplied to me by the Federal Ministry of Economics, the Federal Ministry of Finance, the Federal Foreign Office, the Co-ordinator for the Intelligence Services and the Federal Intelligence Service (BND). I apologize for the fact that this will be rather lengthy, but I gladly comply with the Opposition's request for precise data.

In August 1987, the BND indicated on the basis of spot satellite photos and other intelligence that a new industrial plant was detectable in the Gharyan area near Rabta in Libya which "is most probably the new warfare agents plant". There were no signs of German participation.

On 18 May 1988, the Federal Foreign Office received at working level a paper from the US Embassy, in which the latter expressed its concern over the fact that possibly three German companies (IMBAUSEN Chemie GmbH was one of the firms named) were involved in building a chemical plant in Libya at which chemical weapons could perhaps be produced. The paper also contained a reference to a company called INTEC, which was accused of refitting Libyan aircraft for in-flight refuelling.

On 25 May 1988 the Federal Foreign Office forwarded the paper to the relevant Ministries, namely the Federal Ministry of Economics and the Federal Ministry of Finance, with the recommendation that the matter should possibly be examined from the point of view of foreign trade law. The Federal Ministry of Economics informed the Federal Office of Trade and Industry, while the Federal Ministry of Finance arranged in June 1988 for an examination in respect of INTEC and also communicated the US information to the ZKI.

In mid-July 1988, the BND received from friendly intelligence services the first information on possible participation by German companies in the poison gas production facility at Rabta in Libya. Concrete information on the type of participation was not received.

On 2 August 1988, the ZKI was informed by the BND on this subject. The following companies were named:

- IBI,
- Pen Tsao,
- Imhausen.

The two authorities agreed not to audit the companies so as not to warn them and thus hamper further observation. The ZKI assumed the task of obtaining background information on Imhausen.

Contacts between the BND and ZKI on 25 August and 26 September did not reveal any new findings.

The BND reports of 30 September, 18 October and 27 October contained clearer information on participation by German companies.

On 20 October, the Federal Chancellor was for the first time briefed by means of a summary report presented by the head of Directorate-General 6 of the Federal Chancellery on the intelligence available on Libya's efforts to set up a poison gas production facility. In this connection, the possible involvement of the German firm of Imhausen was also mentioned. The Federal Chancellor was also told that the relevant German authorities had been informed.

The BND report of 18 October was also forwarded to the Federal Foreign Office and the Federal Ministry of Economics.

On 15 November, the Federal Chancellor was provided, during his talks with US Secretary of State Shultz in Washington, with information from CIA Director Webster on participation by German companies, including Imhausen and IBI, in the chemical weapons facility at Rabta.

On 17 November, the Federal Chancellor informed his Cabinet, and on 18 November the Federal Security Council, of the information received from the US Government. (Quote from Federal Security Council minutes)

Incidentally, your accusation, Herr Vogel, that the Federal Chancellor denied the involvement of German companies in the construction of a production plant in Libya cannot have been meant seriously. The Federal Chancellor emphatically declared that the notion of German firms being involved in erecting a chemical weapons factory was intolerable.

On 23 November, the ZKI told the Federal Ministry of Finance, in the light of the information from Washington, that there were no findings substantiating initial suspicion within the meaning of section 34 of the Foreign Trade and Payments Act.

On 24 November, the BND commented on information supplied by the US Government to the Federal Chancellor. On the basis of its findings the BND stated that of the German companies named only Imhausen and possibly Pen Tsao were involved in building the facilities in Libya. It also stated that there were no signs of participation by other firms named by the United States. The BND reported in addition, without providing details, on signs of important documents having been taken abroad by staff members of Imhausen.

The Federal Ministry of Finance then instructed the ZKI by telephone to obtain further details from the BND on the alleged transfer of documents. In particular, the ZKI was instructed to ascertain whether there was sufficient evidence substantiating the suspicion of an offence having been committed under section 34 of the Foreign Trade and Payments Act. In such a case, the ZKI was to suggest immediately to the relevant public prosecutor's office that the company concerned should be searched by the local customs investigation office and that central investigations be conducted by the ZKI.

On 29 November, the BND informed the ZKI of the material likely to be supplied.

The meeting on 30 November between members of the Federal Ministry of Finance and the ZKI to discuss the information available arrived at the conclusion that there was insufficient evidence constituting initial suspicion. The ZKI was instructed by the Federal Ministry of Finance to call in the relevant public prosecutor's office as soon as findings existed that would suffice for criminal proceedings against individuals and companies.

At the beginning of December, agreement was reached with the US Government that a delegation of American experts would visit this country. The visit, initially scheduled for 15 December, was then deferred until 22 December.

On 8 December, the ZKI tried in vain to obtain data from an informer.

On 14 December, ZKI agents met with the informer and received a file con-

taining documents indicating Imhausen's involvement in the Libyan project. The file did not, however, reveal any signs of an illegal exportation of goods.

On 20 December, the ZKI confiscated four boxes full of documents in the informer's possession. The examination of the documents likewise failed to reveal any signs of unauthorized exports, which is the only offence punishable under existing law. The informer stated that further documents could be obtained at IBI.

On the same day, the Federal Ministry of Finance briefed the Ministries concerned on the state of the preliminary investigations by the ZKI and stated that the information had thus far failed to produce sufficient evidence of an offence having been committed by German companies. The Ministries were agreed that, before taking further action, they should await the more detailed briefing promised by the United States.

On 22 December, the Ministries concerned were briefed by the US delegation at the Federal Foreign Office. The US experts reported on their knowledge about the nature of the poison gas facility. However, the delegation was still not able to provide concrete information showing participation by German companies in the construction of the plant. The Federal Ministry of Finance requested the US delegation to provide additional material. The delegation stated that the possibility of handing over material would be examined.

On 29 December, the Federal Ministry of Finance instructed Freiburg Regional Finance Office to audit Imhausen at Lahr immediately in order to ascertain whether the company exported goods to Libya in the period from 1984 up to the present day and violated the provisions of foreign trade and payments legislation.

On 2 January 1989, the Federal Ministry of Finance also instructed Hamburg Regional Finance Office to audit Pen Tsao, a company in which Imhausen holds a stake.

On 4 January, the ZKI confiscated documents of IBI in Frankfurt.

On 5 January, the audit of Imhausen failed to reveal any signs of the company's participation in the erection of chemical facilities in Libya.

In the first week of January, the ZKI asked a number of local public prose-

cutors' offices to examine whether preliminary proceedings should be instituted against German companies.

On 12 January, the public prosecutor's office in Offenburg instituted preliminary proceedings against Imhausen on the charge of the company having violated section 34 of the Foreign Trade and Payments Act. On the same day, the ZKI confiscated further documents in the possession of the former managing director of IBI in Frankfurt.

On 16 January, the public prosecutor's office in Offenburg took control of all criminal investigations against German companies in this matter. The investigations are conducted by the ZKI.

The sequence of events shows that, when the first information was received, the relevant authorities were notified without delay and that they carried out all the requisite investigations.

The Federal Republic of Germany is a State based on the rule of law. The actions of its public organs have to be determined not only by Government interests; they must likewise protect the freedom of the individual. This means that the authorities can take action against citizens only in such fields, only by such means and under such conditions as are laid down in law.

It is strange: Precisely those who in the debate on data protection and on the powers of the security authorities gladly accuse the Federal Government of insufficient regard for the individual's private sphere are now claiming that the Federal Government did not act with sufficient determination against individuals - and companies are also individuals. The investigations of the ZKI are subject to the Code of Criminal Procedure. Under this code, investigations cannot be initiated at random. In view of the strains that they may entail, the institution of proceedings requires the existence of initial suspicion founded on concrete facts (section 152 of the Code of Criminal Procedure). Mere assumptions are not sufficient. The Code of Criminal Procedure does not allow proceedings to be initiated and the lives of the people concerned to be examined merely on the basis of assumptions and merely because an offence might be exposed.

The ZKI thus acted in accordance with its duties by first confining itself to obtaining background information and initially refraining from open investigations so as not to warn the companies, thereby thwarting further clarification of the matter. These considerations of expediency are typical of all

criminal investigations by investigating authorities: In complicated cases that they have to examine, the public prosecutor, the police and the customs investigation offices must ask themselves whether and how long they must wait before initiating open investigations for the sake of achieving a successful outcome to the investigations. The documents confiscated at IBI on 4 January 1989 were the first to give the ZKI cause to involve a number of public prosecutors' offices in the matter.

Let me summarize the information received until now as follows:

In view of the intelligence available, we have to assume that the plant at Rabta is suitable for producing chemical warfare agents. There is intelligence indicating the participation of German companies in constructing this plant. Whether they violated existing law in this connection is a subject of investigations by public prosecutors. The Federal Government is not able to predict the outcome of these proceedings.

The public were informed to the extent legally permissible. Briefing the public on possible offences of individuals is subject to stringent statutory restrictions: the individual must not be exposed to the danger of premature public condemnation, with all the personal and financial consequences this may have. Furthermore, any briefing of the public must not thwart or impede the work of investigating authorities.

My description of the sequence of events shows that at no stage was it possible to provide the public with more extensive information on the possible involvement of German companies. It was not until 5 January 1989 that the BND indicated that there was information suitable for use in court. Before that, such use was not feasible because the information was provided on an unattributable basis. Of course, only the court responsible can itself decide on whether information is acceptable as evidence. But as long as the BND itself does not describe information as suitable for use in court, utmost restraint has to be exercised in informing the public.

Ladies and Gentlemen,

The spread of chemical weapons in the hands of irresponsible governments is increasingly becoming a nightmare. Industrial countries are under an obligation to make every effort to curb this threat to nations. The experience gained in recent weeks has shown how limited the existing legal possibilities are for preventing the participation of German companies in the

manufacture of chemical weapons abroad. For this reason, the Federal Government decided on 10 January to improve the instruments available. The Cabinet's decisions have four priorities:

First: to introduce more severe sentences and fines

The Federal Government has arranged for the drafting of new criminal provisions concerning biological and chemical weapons which will have a far greater scope than the existing provisions of the War Weapons Control Act. More stringently than under existing law, the production of biological and chemical weapons as well as related activities in this country are to be made punishable without reservation; the Act will thus no longer provide for formal options for approval in this connection. The sentences for these proscribed acts are to be increased considerably.

In addition, these criminal provisions will for the first time also apply to acts committed by Germans abroad. A German citizen who, for example, participates in the production of chemical weapons in a Middle Eastern country will then be just as liable to punishment as a German company that deliberately assists such production by supplying dual-purpose facilities. Acts committed by negligence will also be punishable.

With this project, which the relevant Ministries are currently working on at full speed, the Federal Government is underscoring its political intention of making an effective contribution towards globally banning biological and chemical weapons. We are thus going much further than the Social Democrats, whose bill of 16 September 1988 on war weapons control did not envisage the application of German criminal law to offences abroad as well. Admittedly, with this project we are breaking new legal ground. The extension of German criminal law to acts committed abroad raises difficult legal questions in this field which have to be carefully examined. I am sure you will therefore appreciate that the Federal Government is not yet able to present a bill.

Second: to improve the control mechanisms

The network of foreign trade controls is to become more close-knit. Among other things, a duty of notification is to be introduced for manufacturers of sensitive goods so that illegal exports can be prevented well in advance.

Third: to extend the authorization requirements for technology transfer to include further countries of destination

At present, only the exportation of sensitive technology to Eastern countries requires authorization. In future, the authorization requirements are to be extended to include other countries that have yet to be determined.

Fourth: to equip the monitoring authorities with increased staff and better instruments

A more close-knit network of controls necessitates more staff and instruments. The Federal Government will strive to achieve this, and it expects Parliament's assistance in this respect.

Ladies and Gentlemen,

Even after the introduction and application of this set of measures there will be no guarantee that all illegal exports of sensitive goods and technology will be prevented. No law is so effective as to prevent its violation. Full-scale monitoring of German exports is not possible.

Contrary to some assertions, the Federal Government's efforts to investigate fully all indications of illegal exports by German companies to Libya have also been acknowledged by our American allies. Secretary of State Shultz assured Foreign Minister Genscher of this on the fringes of the Paris chemical weapons conference. President Reagan transmitted a similar message to Chancellor Kohl. President-elect Bush has made a public statement to the same effect.

Allow me to sum up:

- All information received was immediately forwarded to the relevant investigating authorities, who examined the matter in accordance with existing laws and regulations.

- The public have been informed to the extent legally permissible.

- The Federal Government will take suitable measures to strengthen the network of foreign trade controls. There can be no doubt as to the Federal Government's determination to prevent the proliferation of chemical weapons by means of all instruments at its disposal.

LETTER FROM KARL TH. PASCHKE

THE CHARGÉ D'AFFAIRES A. I.
OF THE
FEDERAL REPUBLIC OF GERMANY
WASHINGTON, D. C

Dear Senator:

With reference to the remarks made by Major General Burns concerning the attitude of the German Federal Government during yesterday's hearing before the Senate Foreign Relations Committee, I should like to enclose for your information relevant texts pertaining to the possible participation by Germans in the construction of a chemical weapons factory in Libya und to preventive measures planned in this context.

Allow me to sum up:

The German Federal Government considers it unacceptable that German companies or individuals - whether inside or outside of the Federal Republic of Germany - participate in the production of such weapons.

The preventive measures initiated by the Federal Government will define such participation as a crime which must be treated and punished as such.

As far as the specific Libyan case is concerned, Federal Chancellor Kohl has given strict order that it must be investigated and brought out into the open without reserve and without any consideration for particular individuals or companies.

With regard to the great dangers posed by the Libyan plant, the German Federal Government will do everything in its power to prevent that this plant ever goes into production.

This Embassy stands ready to keep you posted about any further developments.

Sincerely,

Karl Th. Paschke

Karl Th. Paschke
Washington, D.C., January 25, 1989

Botschaft
der Bundesrepublik Deutschland
Embassy
of the Federal Republic of Germany

Washington, January 25 , 1989

Relevant texts pertaining to the possible participation by Germans in the construction of a chemical weapons factory in Libya and to preventive measures planned in this context

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1. Federal Chancellor Helmut Kohl

Interview given to Deutschlandfunk on January 22, 1989 (Excerpt)

QUESTION: THE BREATHING SPACE ANTICIPATED AFTER THE ADOPTION OF MAJOR REFORMS LAST YEAR HAS NOT COME ABOUT BECAUSE OF THE STILL UNCLARIFIED QUESTION OF PARTICIPATION BY GERMAN COMPANIES IN THE PLANNING AND CONSTRUCTION OF THE LIBYAN CHEMICAL FACTORY AT RABTA, WHERE CHEMICAL WEAPONS ARE ALSO TO BE PRODUCED. APART FROM CLARIFYING THIS CASE WITHOUT RESERVE, WHAT MUST BE DONE TO PREVENT AS FAR AS POSSIBLE IN ANY FUTURE PARTICIPATION OF GERMAN COMPANIES, SCIENTISTS OR TECHNICIANS IN SUCH CRIMINAL DEALINGS?

ANSWER: FIRST OF ALL, LET ME SAY THIS ON THE BASIC POSITION HELD BY THE FEDERAL GOVERNMENT, AND THIS IS OF COURSE MY POSITION AS WELL: I AM CERTAIN EVERYONE OF GOODWILL WILL AGREE WITH ME THAT IT IS UNBEARABLE FOR US THAT GERMAN COMPANIES OR INDIVIDUALS - WHETHER INSIDE OR OUTSIDE THE FEDERAL REPUBLIC OF GERMANY - PARTICIPATE IN THE PRODUCTION OF SUCH WEAPONS. TO ME, SUCH PARTICIPATION IS OUT OF THE QUESTION, AND IT IS PROHIBITED IN THE FEDERAL REPUBLIC. ABROAD, THERE IS AS YET NO BAN ON CHEMICAL OR BIOLOGICAL WEAPONS. THIS NEEDS TO BE STATED CLEARLY. WE ARE STRIVING FOR AN INTERNATIONAL BAN, WHICH IS LONG OVERDUE. WE MUST NOW - AND THIS IS THE EKSPERIENCE WE HAVE GAINED IN THE CASE YOU JUST MENTIONED - CERTAINLY IMPROVE AND TIGHTEN THE EKSISTING LEGAL INSTRUMENTS. AS FAR AS THIS SPECIFIC CASE IS CONCERNED, I WANT IT TO BE CLARIFIED WITHOUT RESERVE AND WITHOUT ANY CONSIDERATION FOR PARTICULAR INDIVIDUALS OR COMPANIES. THERE MUST BE NO COVER-UP. I HAVE STRICTLY ORDERED SUCH CLARIFICATION. BUT LET ME ADD, IN THE CONTEKST OF THE ONGOING DEBATE WHICH I FIND VERY ASTONISHING IN PART THAT WE LIVE IN A STATE BASED ON THE RULE OF LAW, WHERE RESPONSIBILITY LIES WITH THE LOCAL COURTS AND PUBLIC PROSECUTORS' OFFICES OR AUKSILIARY ORGANS, SUCH AS CUSTOMS CRIMINOLOGICAL AUTHORITIES. NOR CAN THERE BE ANY PRECONDEMNATION. THE RULE OF LAW IMPLIES THAT ITS PRINCIPLES ARE STRICTLY OBSERVED. THIS NATURALLY ALSO APPLIES TO THE FEDERAL GOVERNMENT. BUT MY OBJECTIVE IS, ABOVE AND BEYOND ANY INDIVIDUAL CASE, THAT WE SUBMIT BY EASTER THE NECESSARY BILLS TO THE LEGISLA TIVE BODIES - THE BUNDESTAG AND THE BUNDESRAT - IN ORDER TO DO EVERYTHING HUMANLY POSSIBLE BY PROVIDING FOR MORE SEVERE PUNISHMENT AND IMPROVED CONTROLS, WHICH IS ALL RATHER DIFFICULT FOR SUCH A LARGE EKSPORTING COUNTRY WITH OPEN BORDERS. DURING THE LAST FEW DAYS OUR FRIENDS IN THE UNITED STATES - PRESIDENT BUSH, EKS-PRESIDENT REAGAN

AND EKS-SECRETARY OF STATE SHULTZ - HAVE STATED QUITE CLEARLY THAT THEY KNOW WE WILL ACT ALONG THESE LINES.

2. Federal Minister Schaeuble's speech in the Bundestag on January 18, 1989

In this comprehensive statement Minister Schaeuble summarized the attitude of the German Federal Goverment and its assessment of the development of events as of January 18, 1989, and gave a detailed survey on the preventive measures to be taken. His statement is annexed.

3. Federal Foreign Minister Hans-Dietrich Genscher

Interview given to the ARD Broadcasting Corporation on January 11, 1989 (excerpt)

FOR YEARS NOW I HAVE BEEN STRIVING VIGOROUSLY FOR A GLOBAL BAN ON CHEMICAL WEAPONS. WE OURSELVES HAVE RENOUNCED THESE WEAPONS. IT DEEPLY DISTURBS ME IF I GAIN THE IMPRESSION THAT, CONTRARY TO THIS OFFICIAL POSITION OF THEIR OWN GOVERNMENT, GERMANS HAVE PARTICIPATED IN OTHER COUNTRIES ... THIS IS NOT JUST A MATTER REGARDING THE FOREIGN TRADE AND PAYMENTS ACT, OR MERELY A MATTER OF FINES. IT CONCERNS THE PUNISHMENT OF CRIMINAL OFFENCES. AND IF THE PROVISIONS OF THE PENAL CODE ARE NOT ADEQUATE FOR THIS PURPOSE, WE MUST CREATE SUITABLE ONES. I AM CONVINCED THAT THEY ARE NOT ADEQUATE AND THAT WE MUST CREATE CRIMINAL PROVISIONS WHICH IMPOSE SEVERE PUNISHMENT ON PARTICIPATION BY GERMANS ANYWHERE IN THE WORLD IN THE PRODUCTION OF THOSE WEAPONS OF MASS DESTRUCTION.

Speech at the Congress of the Free Democratic Party on January 6, 1989 (Excerpt)

AS THE ONLY COUNTRY IN THE WORLD THUS FAR, WE HAVE RENOUNCED THE PRODUCTION OF CHEMICAL WEAPONS. IT IS IN KEEPING WITH OUR POSITION THAT WE DO EVERYTHING IN OUR POWER TO PREVENT GERMAN COMPANIES OR INDIVIDUALS FROM PARTICIPATING IN THE MANUFACTURE OF THESE VICIOUS WEAPONS IN OTHER COUNTRIES. SUCH PARTICIPATION IS A CRIME AND MUST BE TREATED AND PUNISHED AS SUCH. IF THE EKSISTING LAWS AND CONTROLS ARE INADEQUATE, THEY MUST BE TIGHTENED.

4. German Bundestag

On Jan. 18, 1989 the German Bundestag adopted the following resolution (unofficial translation):

- The Bundestag requests the Federal Government to exhaust all existing control possibilities in order to assure that commercial firms from the Federal Republic of Germany cannot give further assistance to develop and produce chemical weapons.

- The Bundestag requests the Federal Government to submit without delay, at the latest until February 15, 1989, a written report which spells out which departments and members of the Federal Government were informed at which time about a possible participation of Germans in the poisonous gas production in Libya, what was initiated thereupon and which political and legal consequences the Federal Government intends to draw from the findings available so far.

PREPARED STATEMENT OF THOMAS A. DINE

Mr. Chairman, I appreciate the opportunity to submit testimony on controlling the proliferation of chemical weapons, particularly in the Middle East region.

In recent years, a number of developments have taken place in the Middle East that threaten Israel's security and have justly moved the chemical weapons issue to the top of America's and the world's agenda.

First, several Arab states in the region - Egypt, Iraq, Iran, Libya and Syria - have developed the capability, aided by West European industrial firms, to wage chemical warfare. Apparently, their stocks of chemicals are sufficiently large so as to cause massive casualties if used against unprotected civilians in Israel's major population centers. Iraq, for example, is thought to be operating five chemical complexes that are capable of producing 50 tons of Tabun and Sarin nerve gas and 720 tons of mustard gas per year, while Libya is putting the finishing touches on a chemical weapons facility that will be capable of producing five tons of mustard gas daily.

Second, a number of these Arab nations have sought and are developing ballistic missile technology that will allow them to deliver their chemical warheads directly on Israeli territory. Using ballistic missiles armed with chemical warheads, Iraq showed in its recent war with Iran how inaccurate but destructive these two technologies in combination can be. Given that there is at present no effective defense against missiles armed with chemical warheads, military planners in states considering using this capability are able to contemplate a high probability of incurring great death and destruction. And given that these weapons are inaccurate, unrecallable terror weapons -- in

contrast to highly accurate counterforce systems -- they seriously increase the risk of pre-emptive strikes in a crisis.

Third, in the Iran-Iraq war, by using chemical agents, Iraq breached the ban against the use of chemical weapons that has existed since World War I. In so doing, Iraq, unfortunately, suffered only minimal condemnation from the world community. As a result, the use of poison gas now seems to have a legitimacy that it has not had during most of this century.

Together, these and associated other factors raise serious questions about what the spread of chemical weapons might mean for the security interests of Israel as well as those of the United States. Concerning Israel chemical weapons could be used against Israeli airbases and mobilization centers in the opening phases of an Arab offensive during a future conflict. And it would require only a few attacks with chemically-armed missiles to incur a high number of civilian casualties. While Egypt possessed chemical weapons during the 1973 Middle East war, it opted not to employ them. Today, however, following the Iran-Iraq War and the spread of these new technologies around the Middle East, the situation might well be different in the event of hostilities. Certainly, the calculus regarding the costs and benefits stemming from their use by Arab states may well have changed in the minds of military planners in light of recent developments.

In the face of this dangerous situation, Israel's policy toward the use of chemical weapons is one of deterrence. The Government of Israel favor a chemical weapons-free zone in he Middle East and has made clear on a number of occasions that any use of chemical weapons against Israel would inflict the most serious consequences upon the perpetrator. At the same time, Israel has taken a variety of measures to defend itself from the dangers posed by chemical weapons in the hands of its enemies. Its intelligence community has stepped up the monitoring of Arab production capabilities. Israel has been forced to implement a

comprehensive civil defense program to defend its population against chemical attack. Gas masks and other protective gear have been stockpiled and training is offered to the general public on the steps to be taken in the event of a chemical weapons attack. Further, a range of initiatives have been instituted at military facilities such as airbases so that operations can be sustained in a chemical environment. Finally, and perhaps most significantly, the United States and Israel have embarked on a joint research project to develop an anti-tactical ballistic missile system. The so-called Arrow ATBM project, which has been underway for about a year, justly commands broad bipartisan support in the Congress. While still in the research and development stage, this joint ATBM project may prove to be a model for countries wishing to defend themselves against missiles with chemical warheads.

Given the growing threat from the spread of chemical weapons to American and Israeli interests, it is not surprising that both the U.S. Executive and Legislative branches have turned their attention to the problem in recent days. To his credit, George Bush highlighted the importance of this issue during the recent presidential campaign when he repeatedly made chemical weapons his highest arms control priority. In a September speech in Baltimore, candidate Bush observed:

> "I thought we had banished forever the sight of human beings tortured by chemical warfare. The sight of a mother trying desperately to shield her child against the drifting winds of death. That's why an international effort to make sure chemical weapons are never--never used again will be at the top of my agenda as president!"

And in a major campaign foreign policy address in Toledo in October, Bush declared:

> "I want to be known as the President who, working with our allies, the Soviets and others, led to the elimination of chemical warfare and chemical weapons...if I'm elected President, if I'm remembered for anything, it would be this: A complete and total ban on chemical weapons."

Since taking office, President Bush has usefully pursued this issue on several fronts. He has attempted to tighten our export control procedures regarding chemicals. He has supported active U.S. participation in the Australia Group, the 19-member grouping formed to try to control the spread of chemical weapons and the 7-nation Missile Technology Control Regime designed to stop the export of technologies that aid the building of surface-to-surface missiles. Finally, the United States has continued to pursue multilateral negotiations in Geneva to conclude a Chemical Weapons Convention aimed at prohibiting the development, production, possession and transfer of chemical weapons.

While these and other administration efforts are useful steps,more must be done on an urgent basis. For with every passing day, civilians in Israel and elsewhere are increasingly threatened by the spread of chemical weapons and possible attack, either by terrorists or by belligerent states. Accordingly, Congressional initiatives designed to prevent the spread and possible use of chemical weapons are critical. I commend this Committee, particularly Chairman Pell and Ranking Member Helms, for the leadership they have demonstrated on this issue.

Without analyzing here the pros and cons of all the different legislative initiatives recently introduced regarding chemical weapons, I believe that the United States ought to take

the lead by enacting new legislation now to deal with this growing threat. Among other things, such legislation should:

1) Provide mandatory sanctions against nations that use chemical weapons;

2) Provide mandatory sanctions against companies and other suppliers of materials and technology which aid the proliferation of chemical weapons;

3) Broaden and tighten export controls on chemicals;

4) Encourage bilateral U.S.-Soviet efforts to control chemical weapons proliferation; and

5) Spur international efforts to control the spread of chemical weapons and ballistic missile technology.

Allow me to say a word about these objectives. Concerning sanctions, it is long overdue that the United States put some teeth in its effort to get chemical weapons proliferation under control. This effort should include sanctions against both those nations that use chemical weapons and those companies and individuals that aid the spread of related technologies. Only by enacting mandatory sanctions will would-be chemical weapons proliferators take seriously American concern over this issue.

On the matter of export controls, much more can be done than has been done thus far. During the Reagan Administration,

tightening controls over the export of sensitive technology to Eastern Europe was a high priority effort. Tightening controls over the export of materiel applicable to chemical weapons production should be at least as high a priority item in the Bush Administration. West German and Japanese support for a Libyan chemical weapons plant and apparent American companies' support for an Iraqi missile plan underscore the need to strengthen international controls on the export of new technologies. Here, in addition to reorganizing our own export control efforts and initiating new international arms control efforts, we should encourage the building of a chemical weapons database similar to that used to keep track of the export of nuclear material worldwide.

If the superpowers are serious about bringing the global spread of chemical weapons under control, they must set a good example. For most of the postwar period, superpower cooperation regarding the development and transfer of chemical weapons materiel has been extremely unlikely, given divergent American and Soviet geopolitical interests. In the current era, such cooperation is at least conceivable. This is one area where the United States can and should make a greater effort to test the Gorbachev regime's intentions. Why not press the Soviets to bear down on the Syrians, the Libyans and the Iraqis concerning chemical weapons?

On the international front, serious, new U.S. initiatives are needed to move forward the work of the Australia Group and also the Missile Technology Control Regime, two efforts that are useful but limited in scope and membership. Further, vigorous efforts should go forward in Geneva to try to complete a global ban on chemical weapons. For such a global ban to make sense, it would have to be global in character and adequately verifiable. Otherwise, such an agreement would increase incentives for would-be cheaters to violate the agreement, thus undermining deterrence

and stability in such tense regions of the world as the Middle East. On the other hand, if global and verifiable, a Chemical Weapons Convention could create a framework that would usefully provide countries with strong international incentives to refrain from acquiring, producing, or transferring chemical weapons. Such a Convention could also bring into being an agreed-upon basis for international action against those countries which do not comply with the agreement.

The efforts that are outlined above are but first steps that the United States should take to deal with the growing chemical weapons threat to the security of the United States and its friends such as Israel. Mr. Chairman, more must be done about this very serious problem and the sooner, the better. Chemical weapons must not be viewed in the Arab World or in the Third World generally as the weapons of the future.

101ST CONGRESS
1ST SESSION

S. 195

Entitled the "Chemical and Biological Weapons Control Act of 1989".

IN THE SENATE OF THE UNITED STATES

JANUARY 25 (legislative day, JANUARY 3), 1989

Mr. PELL (for himself, Mr. HELMS, Mr. KERRY, Mr. MCCAIN, Mr. GORE, Mr. SIMON, Mr. BOSCHWITZ, Mr. DODD, Mrs. KASSEBAUM, Mr. BURDICK, Mr. HUMPHREY, Mr. SANFORD, Mr. BIDEN, Mr. COHEN, Mr. HARKIN, Mr. DOLE, Mr. STEVENS, Mr. MURKOWSKI, and Mr. LUGAR) introduced the following bill; which was read twice and referred to the Committee on Foreign Relations

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A BILL

Entitled the "Chemical and Biological Weapons Control Act of 1989".

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SHORT TITLE

SECTION. 1. This Act may be cited as the "Chemical and Biological Weapons Control Act of 1989".

FINDINGS AND PURPOSE

SEC. 2. The Congress finds that—

(a) chemical weapons were employed in the recent Iran-Iraq war and by Iraq in attacks against its Kurdish minority;

(b) the use of chemical or biological weapons in contravention of international law is abhorrent and requires immediate and effective sanctions;

(c) United Nations Security Council Resolution 620, adopted on August 26, 1988, states the intention of the Security Council to consider immediately "appropriate and effective" sanctions against any nation using chemical and biological weapons in violation of international law;

(d) the Declaration of the Paris Conference on Chemical Weapons Use demonstrates the resolve of most nations to reaffirm support for the 1925 protocol banning the use of chemical and bacteriological weapons and to press for attainment of a ban on the production and possession of lethal and incapacitation chemical weapons;

(e) a growing number of nations, including Libya and Syria, have or are seeking the capability to produce lethal and incapacitating chemical weapons;

(f) the further spread of chemical or biological weapons capabilities would pose of a threat of incalcu-

lable proportions to friends and allies and undermine the national security of the United States;

(g) the United Nations should create an effective means of monitoring and reporting regularly on commerce in equipment, materials, and technology applicable to the attainment of a chemical and biological weapons capability; and

(h) every effort should be made to conclude an early agreement banning the production and stockpiling of lethal and incapacitating chemical weapons.

PURPOSE

SEC. 3. It is the purpose of this Act to mandate United States sanctions and to encourage international sanctions against nations that use chemical or biological weapons in violation of international law; to require semi-annual presidential reports on efforts by Iran, Iraq, Libya, and Syria and other developing nations to acquire the materials and technology to produce and deliver chemical and biological weapons; to urge cooperation with other supplier nations to devise effective controls on the transfer of materials, equipment, and technology applicable to chemical or biological weapons production; to promote agreements banning the transfer of missiles suitable for armament with chemical or biological warheads; to encourage an early agreement banning the production and stockpiling of lethal and incapacitating chemical or biological weapons; and to seek effective international means

of monitoring and reporting regularly on commerce in equipment, materials, and technology applicable to the attainment of a chemical or biological weapons capability.

AUTOMATIC SANCTIONS FOR THE USE OF CHEMICAL WEAPONS

SEC. 4. In the event any foreign country shall use chemical or biological weapons in violation of international law or against its own citizens, the sanctions listed below shall take effect against such country:

(a) The United States Government shall not sell the sanctioned country and item on the United States Munitions List.

(b) Licenses shall not be issued for the export to the sanctioned country of any item on the United States Munitions List.

(c) The authorities of section 6 of the Export Administration Act of 1979 shall be used to prohibit the export to the sanctioned country of any goods or technology on the control list established pursuant to section 5(c)(1) of that Act.

(d) The United States shall oppose any loan or financial or technical assistance to the sanctioned country by international financial institutions in accordance with section 701 of the International Financial Institutions Act.

(e) The United States shall not provide any military or economic assistance (except for urgent humanitarian assistance) to the sanctioned country.

(f) The United States shall not import any good, commodity, or service from the sanctioned country.

(g) The United States shall not provide the sanctioned country any credit or credit guarantees through the Export-Import Bank of the United States.

(h) Regulations shall be issued to prohibit any United States bank from making any loan or providing any credit to the sanctioned country.

(i) Landing rights in the United States shall be denied to any airline owned by the government of the sanctioned country.

WAIVER

SEC. 5. The President may waive some or all of the sanctions listed above for a period not to exceed nine months following the illegal use of chemical or biological weapons if he determines that such waiver is in the national interest of the United States and so reports in writing to the Speaker of the House of Representatives and the chairman of the Committee on Foreign Relations of the Senate. In making such a report, the President shall present a detailed explanation of the national interest requiring a waiver. In no event shall the President have authority under this Act to issue a waiver for

that country that would remain in effect beyond nine months following the initial illegal use of chemical weapons.

NOTIFICATION

SEC. 6. Not later than five days after sanctions become effective against a country pursuant to this section, the President shall so notify in writing the Speaker of the House of Representatives and the chairman of the Committee on Foreign Relations of the Senate.

CONTRACT SANCTITY

SEC. 7. The President may not prohibit or curtail the execution of any contract or agreement (except for an agreement to provide military assistance or to sell military equipment) entered into prior to the date on which Congress is notified of the imposition of sanctions against a country pursuant to this section.

REMOVAL OF SANCTIONS

SEC. 8. The President may waive any sanctions imposed pursuant to section 3 of this Act if the President determines and so certifies in writing to the Speaker of the House of Representatives and the chairman of the Committee on Foreign Relations of the Senate that the nation under sanction—

(a) has eliminated facilities for the production of chemical or biological weapons and existing stockpiles of such weapons;

(b) has renounced the use of chemical or biological weapons in violation of international law and provided reliable assurances to that effect; and

(c) has made satisfactory restitution to those affected by its earlier use of chemical or biological weapons in violation of international law.

PRESIDENTIAL REPORTS

SEC. 9. Not later than ninety days after the date of enactment of this Act, and every one hundred and eighty days thereafter, the President shall submit to the Speaker of the House of Representatives, and the chairman of the Committee on Foreign Relations of the Senate a report on efforts by Iran, Iraq, Libya, and Syria and other developing nations to acquire the materials and technology to produce and deliver chemical and biological weapons, together with an assessment of such countries' present and future capability to produce and deliver such weapons.

MULTILATERAL EFFORTS

SEC. 10. The President of the United States is urged—

(a) to continue close cooperation with others in the nineteen nation Australian Group in support of its current efforts and in devising additional means to monitor and control the supply of chemicals applicable to weapons production to Iraq, Iran, Syria, and Libya—nations that currently support or have recently supported acts of international terrorism;

(b) to work closely with other nations also capable of supplying equipment, materials, and technology with particular applicability to chemical or biological weapons production to devise the most effective controls possible on the transfer of such materials, equipment, and technology;

(c) to seek agreements with nations that produce ballistic missiles suitable for carrying chemical or biological warheads that would prevent the transfer of such missiles; and

(d) to take the initiative in pressing for early conclusion of an international agreement banning the production and stockpiling of lethal and incapacitating chemical or biological weapons.

UNITED NATIONS INVOLVEMENT

SEC. 11. The President is urged to give full support to—

(a) the United Nations Security Council, in furtherance of Security Council Resolution 620, adopted August 26, 1988, in developing sanctions comparable to those enumerated in section 3 of this Act to be imposed in the event any nation uses chemical or biological weapons in violation of international law;

(b) the creation by the United Nations of an effective means of monitoring and reporting regularly on commerce in chemical equipment, materials, and technology applicable to the attainment of a chemical or biological weapons capability.

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101ST CONGRESS
1ST SESSION

S. 238

To amend the Arms Export Control Act to impose sanctions against firms involved in the transfer of chemical and biological agents or their related production equipment or technical assistance to Iran, Iraq, Syria, and Libya, and for other purposes.

IN THE SENATE OF THE UNITED STATES

JANUARY 25 (legislative day, JANUARY 3), 1989

Mr. HELMS (for himself, Mr. PELL, Mr. DOLE, and Mr. BOSCHWITZ) introduced the following bill; which was read twice and referred to the Committee on Foreign Relations

---

A BILL

To amend the Arms Export Control Act to impose sanctions against firms involved in the transfer of chemical and biological agents or their related production equipment or technical assistance to Iran, Iraq, Syria, and Libya, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Chemical and Biological Warfare Prevention Act of 1989."

SEC. 2. FINDINGS.

The Congress finds that—

(1) the General Agreement on Tariffs and Trade recognizes that national security concerns may serve as a legitimate basis for constricting free and open trade; title XXI of the General Agreement on Tariffs and Trade states that "nothing in this Agreement shall be construed . . . to prevent any contracting party from taking any action which it considers necessary for the protection of its essential security interests . . .";

(2) the essential security interests of the United States require an immediate end to all trade in chemical and biological weapons, and transfers of technology and delivery systems for chemical and biological weapons, to certain destinations;

(3) four countries of the Middle East, Iran, Iraq, Libya, and Syria, either support terrorism as a national policy or have done so in the recent past;

(4) Iran, Iraq, Syria, and Libya are either producing chemical weapons or on the verge of doing so;

(5) chemical weapons have been used by Iraq against its own citizens;

(6) chemical weapons represent a grave new threat to friendly countries of the Middle East and ultimately the United States itself;

(7) free world industrial firms have been instrumental in the development of chemical weapons in these and other countries;

(8) any efforts by Communist-bloc countries to aid and abet the production or use of chemical or biological weapons, or to develop and deploy delivery systems for such weapons, by Iraq, Libya, or any other nation of the Middle East/Persian Gulf region are deplorable;

(9) international cooperation has so far been unable to stem the trade in chemical and biological weapons and their industrial inputs; and

(10) in order to inhibit the trade in chemical and biological weapons and their industrial inputs, severe sanctions must be applied to individuals and firms which export prohibited items and technology to proscribed destinations.

SEC. 3. POLICY.

It should be the policy of the United States to take all appropriate measures—

(1) to discourage the proliferation of the material and technology necessary and intended to produce or deliver chemical weapons;

(2) to discourage all states from acquiring such material and technology;

(3) to discourage Communist-bloc countries from aiding and abetting other countries from acquiring such material and technology; and

(4) to discourage private companies in non-Communist countries from aiding and abetting other nations from acquiring such material and technology.

SEC. 4. AMENDMENT TO THE ARMS EXPORT CONTROL ACT.

The Arms Export Control Act is amended by adding at the end thereof the following new chapter:

"CHAPTER 7—SANCTIONS AGAINST FIRMS TRANSFERRING CHEMICAL WEAPONS TO TERRORIST COUNTRIES

"SEC. 71. PROHIBITION ON CERTAIN EXPORTS.

"(a) PROHIBITION.—(1)(A) No item on the list prepared by the President under paragraph (2) which is subject to the jurisdiction of the United States or which is exported by a person subject to the jurisdiction of the United States may be exported to a country described in subsection (b).

"(B) Subparagraph (A) does not apply to any export pursuant to a contract entered into before the date of enactment of this section.

"(2) The President shall prepare a list of chemical and biological agents, production equipment, and technical assistance the export of which would materially assist a country in

attaining a chemical or biological warfare capability or systems for the delivery of chemical or biological weapons.

"(b) DESTINATIONS OF EXPORTS.—The countries referred to in subsection (a) and section 73(a)(1) are Iran, Iraq, Libya, Syria, or any country which has used chemical or biological weapons in the past five years or use such weapons after date of enactment of this Act, except that any of these countries shall be excluded, for purposes of applying such provisions, beginning thirty days after the President requests such exclusion by submitting the name of such country to the Congress.

"SEC. 72. REPORT.

"(a) Not later than ninety days after the date of enactment of this section, and every ninety days thereafter, the President shall submit to the chairman of the Senate Committee on Foreign Relations and the Speaker of the House of Representatives, a report on efforts by Iran, Iraq, Libya, Syria, and any country which has, during the five years prior to the report used chemical or biological weapons, to acquire the material and technology to produce and deliver chemical weapons, together with an assessment of such countries' present and future capability to produce and deliver such weapons.

"(b) Such report shall also include an assessment of whether and to what degree Communist-bloc countries have

aided and abetted the government any country reported upon pursuant to subsection (a) in its effort to acquire the material and technology described in subsection (a).

"(c) Such report shall further list—

"(1) those companies in non-Communist countries which in the past have aided and abetted the government of any country reported on pursuant to subsection (a) in that effort; and

"(2) those companies in non-Communist countries which continue to aid and abet the government of any country reported on pursuant to subsection (a), in that effort, as of the date of the report.

"(d) Such report shall provide any confirmed or credible intelligence or other information that any non-Communist country has aided and abetted the government of any country reported on pursuant to subsection (a) in that effort, either directly or by facilitating the activities of the companies listed in paragraph (1) or (2) of subsection (c) or had knowledge of the activities of the companies listed in paragraph (1) or (2) of subsection (c), but took no action to halt or discourage such activities.

"(e) Nothing in the section requires the disclosure of information in violation of Senate Resolution 400 of the Ninety-fourth Congress or otherwise alters, modifies, or supersedes any of the authorities contained therein.

"SEC. 73. MANDATORY SANCTIONS FOR FUTURE VIOLATIONS.

"(a) DETERMINATION BY THE PRESIDENT.—The President, subject to subsection (c), shall apply sanctions under subsection (b) for a period of three years, if the President determines that, on or after the date of enactment of this section, a United States or foreign person has exported any item in violation of section 71(a).

"(b) SANCTIONS.—The sanctions referred to in subsection (a) shall apply to any person committing the violation, as well as to any parent, affiliate, subsidiary, and successor entity of the person, and, except as provided in subsection (c), are as follows—

"(1) a prohibition on contracting with, and procurement of products and services from, a sanctioned person, by any department, agency, or instrumentality of the United States Government;

"(2) a prohibition on importation into the United States of all products produced by a sanctioned person; and

"(3) a suspension of patent rights, as described in section 75.

"(c) EXCEPTIONS.—The President shall not apply sanctions under this section—

"(1) in the case of procurement of defense articles or defense services—

"(A) under existing contracts or subcontracts, including the exercise of options for production quantities to satisfy United States operational military requirements;

"(B) if the President determines that the person or other entity to which the sanctions would otherwise be applied is a sole source supplier of essential defense articles or services and no alternative supplier can be identified; or

"(C) if the President determines that such articles or services are essential to the national security under defense coproduction agreements; or

"(2) to—

"(A) products or services provided under contracts entered into before the date on which the President notifies the Congress of the intention to impose the sanctions;

"(B) spare parts;

"(C) component parts, but not finished products, essential to United States products or production;

"(D) routine servicing and maintenance of products; or

"(E) information and technology.

"(d) DEFINITIONS.—For purposes of this section—

"(1) the term 'component part' means any article which is not usable for its intended functions without being imbedded in or integrated into any other product and which, if used in production of a finished product, would be substantially transformed in that process;

"(2) the term 'finished product' means any article which is usable for its intended functions without being imbedded or integrated into any other product, but in no case shall such term be deemed to include an article produced by a person other than a sanctioned person that contains parts or components of the sanctioned person if the parts or components have been substantially transformed during production of the finished product; and

"(3) the term 'sanctioned person' means a person, and any parent, affiliate, subsidiary, or successor entity of the person, upon whom sanctions have been imposed under this section.

"SEC. 74. PENALTIES.

"(a) IN GENERAL.—Whoever knowingly violates or conspires to or attempts to violate section 71(a) shall be fined nor more than five times the value of the exports involved or $50,000, whichever is greater, or imprisoned not more than five years, or both.

"(b) CIVIL PENALTIES; ADMINISTRATIVE SANCTIONS.—(1) The Secretary of Commerce (and officers and employees of the Department of Commerce specifically designated by the Secretary) may impose a civil penalty not to exceed $10,000 for each violation of section 71(a), either in addition to or in lieu of any other liability or penalty which may be imposed.

"(2)(A) The authority under law to suspend or revoke the authority of any United States person to export goods or technology may be used with respect to any violation of section 71(a).

"(B) Any administrative sanction (including any civil penalty or any suspension or revocation of authority to export) imposed under section 71(a) may be imposed only after notice and opportunity for an agency hearing on the record in accordance with sections 554 through 557 of title 5, United States Code.

"SEC. 75. SUSPENSION OF PATENT RIGHTS.

"(a) The term of a patent granted pursuant to title 35, United States Code, for any chemical agent or production equipment, produced by a sanctioned person, including any subsidiary of such person, under section 73(a) of the Arms Export Control Act, shall be suspended for a period of three years.

"(b)(1) No rights under title 35, United States Code, shall be derived from any patent described in subsection (a) during the period of any such suspension.

"(2) Any suspension of patent rights imposed pursuant to the provisions of this section shall not extend the term of any such patent.

"(c)(1) Within thirty days after the date of enactment of this Act, the Commissioner of Patents, after a determination has been made regarding which companies have violated the provisions of this Act, shall recommend the suspension of the appropriate patents.

"(2) The Commissioner shall notify the holder of such patent within thirty days after the date of such determination and shall publish in the Federal Register a notice of such determination, together with the factual and legal basis for such determination. Any interested person may request, within the sixty-day period beginning on the date of publication of a determination, that the Commissioner making the determination hold a hearing on such determination. Such a hearing shall be an informal hearing which is not subject to section 554, 556, or 557 of title 5, United States Code. If such a request is made within such period, the Commissioner shall hold such hearing not later than thirty days after the date of the request, or at the request of the person making the request, not later than sixty days after such date. The

Commissioner who is holding the hearing shall provide notice of the hearing to the company involved and to any interested person and provide the owner and any interested person an opportunity to participate in the hearing. Within thirty days after the completion of the hearing, such Commissioner shall affirm or revise the determination which was the subject of the hearing and shall publish such affirmation or revision in the Federal Register.

"(d) The Commissioner may establish such fees as are appropriate to cover the costs of carrying out his duties and functions under this section.

"(e) The Commissioner shall make the determination that a patent is suspended and that the requirements of subsection (c) have been complied with. If the Commissioner determines that the patent is suspended, he shall issue to the owner of record of the patent a certificate of suspension, under seal, stating the length of the suspension, and identifying the product and the statute under which regulatory review occurred. Such certificate shall be recorded in the official file of the patent and shall be considered as part of the original patent. The Commissioner shall publish in the Official Gazette of the Patent and Trademark Office a notice of such suspension.".

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